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FOREIGN EXCHANGE MANAGEMENT

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Foreign Exchange Management

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UNIT 1 FOREIGN EXCHANGE MANAGEMENT

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Structure

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A Foreign exchange market is a market in which currencies are bought and sold. It is to be distinguished from a financial market where currencies are borrowed and lent.

General Features

Foreign exchange market is described as an OTC (Over the counter) market as there is no physical place where the participants meet to execute their deals. It is more an informal arrangement among the banks and brokers operating in a financing centre purchasing and selling currencies, connected to each other by tele communications like telex, telephone and a satellite communication network, SWIFT. The term foreign exchange market is used to refer to the wholesale a segment of the market, where the dealings take place among the banks. The retail segment refers to the dealings take place between banks and their customers. The retail segment refers to the dealings take place between banks and their customers. The retail segment is situated at a large number of places. They can be considered not as foreign exchange Management, but as the counters of such Management.

The leading foreign exchange market in India is Mumbai, Calcutta, Chennai and Delhi is other centers accounting for bulk of the exchange dealings in India. The policy of Reserve Bank has been to decentralize exchages operations and develop broader based exchange Management. As a result of the efforts of Reserve Bank Cochin, Bangalore, Ahmadabad and Goa have emerged as new centre of foreign exchange market.

Size of the Market

Foreign exchange market is the largest financial market with a daily turnover of over USD 2 trillion. Foreign exchange Management were primarily developed to facilitate settlement of debts arising out of international trade. But these Management have developed on their own so much so that a turnover of about 3 days in the foreign exchange market is equivalent to the magnitude of world trade in goods and services. The largest foreign exchange market is London followed by New York, Tokyo, Zurich and Frankfurt.

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The business in foreign exchange Management in India has shown a steady increase as a consequence of increase in the volume of foreign trade of the country, improvement in the communications systems and greater access to the international exchange Management. Still the volume of transactions in these Management amounting to about USD 2 billion per day does not compete favorably with any well developed foreign exchange market of international repute. The reasons are not far to seek. Rupee is not an internationally traded currency and is not in great demand. Much of the external trade of the country is designated in leading currencies of the world, Viz., US dollar, pound sterling, Euro, Japanese yen and Swiss franc. Incidentally, these are the currencies that are traded actively in the foreign exchange market in India.

24 Hours Market

The Management are situated throughout the different time zones of the globe in such a way that when one market is closing the other is beginning its operations. Thus at any point of time one market or the other is open. Therefore, it is stated that foreign exchange market is functioning throughout 24 hours of the day. However, a specific market will function only during the business hours. Some of the banks having international network and having centralized control of funds management may keep their foreign exchange department in the key centre open throughout to keep up with developments at other centers during their normal working hours

In India, the market is open for the time the banks are open for their regular banking business. No transactions take place on Saturdays.

Efficiency

Developments in communication have largely contributed to the efficiency of the market. The participants keep abreast of current happenings by access to such services like Dow Jones Telerate and Teuter. Any significant development in any market is almost instantaneously received by the other market situated at a far off place and thus has global impact. This makes the foreign exchange market very efficient as if the functioning under one roof.

Currencies Traded

In most Management, US dollar is the vehicle currency, Viz., the currency used to denominate international transactions. This is despite the fact that with currencies like Euro and Yen gaining larger share, the share of US dollar in the total turn over is shrinking.

Physical Management

In few centers like Paris and Brussels, foreign exchange business takes place at a fixed place, such as the local stock exchange buildings. At these physical Management, the banks meet and in the presence of the representative of the central bank and on the basis of bargains, fix rates for a number of major currencies.

This practice is called fixing. The rates thus fixed are used to execute customer orders previously placed with the banks. An advantage claimed for this procedure is that exchange rate for commercial transactions will be market determined, not influenced by any one bank. However, it is observed that the large banks attending such meetings with large commercial orders backing up, tend to influence the rates.

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Participants

The participants in the foreign exchange market comprise;

(i) Corporates
(ii) Commercial banks
(iii) Exchange brokers
(iv) Central banks

Corporates: The business houses, international investors, and multinational corporations may operate in the market to meet their genuine trade or investment requirements. They may also buy or sell currencies with a view to speculate or trade in currencies to the extent permitted by the exchange control regulations. They operate by placing orders with the commercial banks. The deals between banks and their clients form the retail segment of foreign exchange market.

In India the foreign Exchange Management (Possession and Retention of Foreign Currency) Regulations, 2000 permits retention, by resident, of foreign currency up to USD 2,000. Foreign Currency Management (Realisation, Repatriation and Surrender of Foreign Exchange) Regulations, 2000 requires a resident in India who receives foreign exchange to surrender it to an authorized dealer:

(a) Within seven days of receipt in case of receipt by way of remuneration, settlement of lawful obligations, income on assets held abroad, inheritance, settlement or gift: and
(b) Within ninety days in all other cases.

Any person who acquires foreign exchange but could not use it for the purpose or for any other permitted purpose is required to surrender the unutilized foreign exchange to authorized dealers within sixty days from the date of acquisition. In case the foreign exchange was acquired for travel abroad, the unspent foreign exchange should be surrendered within ninety days from the date of return to India when the foreign exchange is in the form of foreign currency notes and coins and within 180 days in case of travellers cheques.

Similarly, if a resident required foreign exchange for an approved purpose, he should obtain from and authorized dealer.

Commercial Banks are the major players in the market. They buy and sell currencies for their clients. They may also operate on their own. When a bank

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enters a market to correct excess or sale or purchase position in a foreign currency arising from its various deals with its customers, it is said to do a cover operation. Such transactions constitute hardly 5% of the total transactions done by a large bank. A major portion of the volume is accounted buy trading in currencies indulged by the bank to gain from exchange movements. For transactions involving large volumes, banks may deal directly among themselves. For smaller transactions, the intermediation of foreign exchange brokers may be sought.

Exchange brokers facilitate deal between banks. In the absence of exchange brokers, banks have to contact each other for quotes. If there are 150 banks at a centre, for obtaining the best quote for a single currency, a dealer may have to contact 149 banks. Exchange brokers ensure that the most favorable quotation is obtained and at low cost in terms of time and money. The bank may leave with the broker the limit up to which and the rate at which it wishes to buy or sell the foreign currency concerned. From the intends from other banks, the broker will be able to match the requirements of both. The names of the counter parities are revealed to the banks only when the deal is acceptable to them. Till then anonymity is maintained. Exchange brokers tend to specialize in certain exotic currencies, but they also handle all major currencies.

In India, banks may deal directly or through recognized exchange brokers. Accredited exchange brokers are permitted to contract exchange business on behalf of authorized dealers in foreign exchange only upon the understanding that they will conform to the rates, rules and conditions laid down by the FEDAI. All contracts must bear the clause –subject to the Rules and Regulations of the Foreign Exchanges Dealers Association of India.

Central Bank may intervene in the market to influence the exchange rate and change it from that would result only from private supplies and demands. The central bank may transact in the market on its own for the above purpose. Or, it may do so on behalf of the government when it buys or sell bonds and settles other transactions which may involve foreign exchange payments and receipts.

In India, authorized dealers have recourse to Reserve Bank to sell/buy US dollars to the extent the latter is prepared to transact in the currency at the given point of time. Reserve Bank will not ordinarily buy/sell any other currency from/to authorized dealers. The contract can be entered into on any working day of the dealing room of Reserve Bank. No transaction is entered into on Saturdays. The value date for spot as well as forward delivery should be in conformity with the national and international practice in this regard.

Reserve Bank of India does not enter into the market in the ordinary course, where the exchages rates are moving in a detrimental way due to speculative forces, the Reserve Bank may intervene in the market either directly or through the State Bank of India.

Settlement of Transactions

Foreign exchange Management make extensive use of the latest developments in telecommunications for transmitting as well settling foreign exchange transaction, Banks use the exclusive network SWIFT to communicate messages and settle the transactions at electronic clearing houses such as CHIPS at New York.

SWIFT: SWIFT is a acronym for Society for Worldwide Interbank Financial Telecommunications, a co operative society owned by about 250 banks in Europe and North America and registered as a co operative society in Brussels, Belgium. It is a communications network for international financial market transactions linking effectively more than 25,000 financial institutions throughout the world who have been allotted bank identified codes. The messages are transmitted from country to country via central interconnected operating centers located in Brussels, Amsterdam and Culpeper, Virginia. The member countries are connected to the centre through regional processors in each country. The local banks in each country reach the regional processors through the national net works.

The SWIFY System enables the member banks to transact among themselves quickly (i) international payments (ii) Statements (iii) other messages connected with international banking. Transmission of messages takes place within seconds, and therefore this method is economical as well as time saving. Selected banks in India have become members of SWIFT. The regional processing centre is situated at Mumbai.

The SWIFT provides following advantages for the local banking community:

1. Provides a reliable (time tested) method of sending and receiving messages from a vast number of banks in a large number of locations around the world.
2. Reliability and accuracy is further enhanced by the built in authentication facilities, which has only to be exchanged with each counterparty before they can be activated or further communications.
3. Message relay is instantaneous enabling the counterparty to respond immediately, if not prevented by time differences.
4. Access is available t a vast number of banks global for launching new cross border initiatives.
5. Since communication in SWIFT is to be done using structure formats for various types of banking transactions, the matter to be conveyed will be very clear and there will not be any ambiguity of any sort for the received to revert for clarifications. This is mainly because the formats are used all ove3r the world on a standardized basis for conducting all types of banking transactions. This makes the responses and execution very efficient at the receiving banks end thereby contributing immensely to quality service being provided to the customers of both banks (sending and receiving).

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6. Usage of SWIFT structure formats for message transmission to counterparties will entail the generation of local banks internal records using at least minimum level of automation. This will accelerate the local banks internal automation activities, since the maximum utilization of SWIFT a significant internal automation level is required.

CHIPS: CHIPS stands for Clearing House Interbank Payment System. It is an electronic payment system owned by 12 private commercial banks constituting the New York Clearing House Association. A CHIP began its operations in 1971 and has grown to be the world's largest payment system. Foreign exchange and Euro dollar transactions are settled through CHIPS. It provides the mechanism for settlement every day of payment and receipts of numerous dollar transactions among member banks at New York, without the need for physical exchange of cheques/funds for each such transaction.

The functioning of CHIPS arrangement is explained below with a hypothetical transaction: Bank of India, maintaining a dollar account with Amex Bank, New York, sells USD 1 million to Canara Bank, maintaining dollar account with Citibank.

1. Bank of India intimate Amex Bank debuts the account of Bank through SWIFT to debit its account and transfer USD 1 million to Citibank for credit of current account of Canara Bank.
2. Amex Bank debits the account of Bank of India with USD 1 million and sends the equivalent of electronic cheques to CHIPS for crediting the account of Citibank. The transfer is effected the same day.
3. Numerous such transactions are reported to CHIPS by member banks and transfer effected at CHIPS. By about 4.30 p.m, eastern time, the net position of each member is arrived at and funds made available at Fedwire for use by the bank concerned by 6.00 p.m. eastern time.
4. Citibank which receives the credit intimates Canara Bank through SWIFT.

It may be noted that settlement of transactions in the New York foreign exchange market takes place in two stages, First clearance at CHIPS and arriving at the net position for each bank. Second, transfer of fedfunds for the net position. The real balances are held by banks only with Federal Reserve Banks (Fedfunds) and the transaction is complete only when Fedfunds are transferred. CHIPS help in expediting the reconciliation and reducing the number of entries that pass through Fedwire.

CHAPS is an arrangement similar to CHIPS that exists in London. CHAPS stands for Clearing House Automated Payment System.

Fedwire The transactions at New York foreign exchange market ultimately get settled through Fedwire. It is a communication network that links the computers of about 7000 banks to the computers of federal Reserve Banks. The fedwire funds transfer system, operate by the Federal Reserve Bank, are used primarily

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for domestic payments, bank to bank and third party transfers such as interbank overnight funds sales and purchases and settlement transactions. Corporate to corporate payments can also be made, but they should be effected through banks. Fed guarantees settlement on all payments sent to receivers even if the sender fails.

TRANSACTIONS IN INTERBANK MANAGEMENT

The exchange rates quoted by banks to their customer are based on the rates prevalent in the interbank market.

The big banks in the market are known as market makers, as they are willing to buy or sell foreign currencies at the rates quoted by them up to any extent. Depending buy or sell foreign currencies at the rates quoted by them up to any extent. Depending upon its resources, a bank may be a market maker in one or few major currencies. When a banker approaches the market maker, it would not reveal its intention to buy or sell the currency. This is done in order to get a fair price from the market maker.

Two Way Quotations

Typically, the quotation in the interbank market is a two – way quotation. It means the rate quoted by the market maker will indicate two prices. One at which it is willing to buy the foreign currency, and the other at which it is willing to sell the foreign currency. For example, a Mumbai bank may quote its rate for US dollar as under

USD 1 = ₹ 48.1525/1650

More often, the rate would be quoted as 1525/1650 since the players in the market are expected to know the big number i.e., ₹ 48. In the given quotation, one rate is ₹ .48.1525 per dollar and the other rate is ₹ 48.1650. per dollar.

Direct Quotation

It will be obvious that the quoting bank will be willing to buy dollars at Rs 48.1525 and sell dollars at Rs 48.1650. If one dollar bought and sold, the bank makes a gross profit of ₹ 0.0125. In a foreign exchange quotation, the foreign currency is the commodity that is being bought and sold. The exchange quotation which gives the price for the foreign currency in terms of the domestic currency is known as direct quotation. In a direct quotation, the quoting bank will apply the rule: –Buy low; Sell high .

Indirect quotation

There is another way of quoting in the foreign exchange market. The Mumbai bank quotes the rate for dollar as:

₹ 100 = USD 2.0762/0767

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This type of quotation which gives the quantity of foreign currency per unit of domestic currency is known as indirect quotation. In this case, the quoting bank will receive USD 2.0767 per ₹ 100 while buying dollars and give away USD 2.0762 per ₹ 100 while selling dollars. In other world, he will apply the rule: –Buy high: Sell low .

The buying rate is also known as the bid rate and selling rate as the offer rate. The difference between these rates is the gross profit for the bank and is known as the Spread.

Spot and Forward transactions

The transactions in the interbank market may place for settlement

(a) on the same day; or
(b) two days later; or
(c) some day late; say after a month

Where the agreement to buy and sell is agreed upon and executed on the same date, the transaction is known as cash or ready transaction. It is also known as value today.

The transaction where the exchange of currencies takes place two days after the date of the contact is known as the spot transaction. For instance, if the contract is made on Monday, the delivery should take place on Wednesday. If Wednesday is a holiday, the delivery will take place on the next day, i.e., Thursday. Rupee payment is also made on the same day the foreign currency is received.

The transaction in which the exchange of currencies takes places at a specified future date, subsequent to the spot date, is known as a forward transaction. The forward transaction can be for delivery one month or two months or three months etc. A forward contract for delivery one month means the exchange of currencies will take place after one month from the date of contract. A forward contract for delivery two months means the exchange of currencies will take place after two months and so on.

Forward Margin/Swap points

Forward rate may be the same as the spot rate for the currency. Then it is said to be at par with the spot rate. But this rarely happens. More often the forward rate for a currency may be costlier or chapter tan its spot rate. The rate for a currency may be costlier or cheaper than nits spot rate. The difference between the forward rate and the spot rate is known as the forward margin or swap points. The forward margin may be either at premium or at discount. If the forward margin is at premium, the foreign correct will be costlier under forward rate than under the spot rate. If the forward margin is at discount, the foreign currency will be cheaper for forward delivery then for spot delivery.

Under direct quotation, premium is added to spot rate to arrive at the forward rate. This is done for both purchase and sale transactions. Discount is deducted from the spot rate to arrive at the forward rate.

Interpretation of Interbank quotations

The market quotation for a currency consists of the spot rate and the forward margin. The outright forward rate has to be calculated by loading the forward margin into the spot rate. For instance, US dollar is quoted as under in the interbank market on 25th January as under:

Spot	USD 1	=	₹ 48.4000/4200
Spot/February			2000/2100
Spot/March			3500/3600

The following points should be noted in interpreting the above quotation;

1. The first statement is the spot rate for dollars. The quoting bank buying rate is ₹ 48.4000 and selling rate is ₹ 48.4200.
2. The second and third statements are forward margins for forward delivery during the months of February. Spot/March respectively. Spot/February rate is valid for delivery end February. Spot/March rate is valid for delivery end March.
3. The margin is expressed in points, i.e., 0.0001 of the currency. Therefore the forward margin for February is 20 paise and 21 paise.
4. The first rate in the spot quotation is for buying and second for selling the foreign currency. Correspondingly, in the forward margin, the first rate relates to buying and the second to selling. Taking Spot/February as an example, the margin of 20 paise is for purchase and 21 paise is for sale of foreign currency.
5. Where the forward margin for a month is given in ascending order as in the quotation above, it indicates that the forward currency is at premium. The outright forward rates arrived at by adding the forward margin to the spot rates.

The outright forward rates for dollar can be derived from the above quotations follows

	Buying rate		Selling rate	
	February	March	February	March
Spot rate	48.4000	48.4000	48.4200	48.4200
Add; Premium	0.2000	0.3500	0.2100	0.3600
	48.6000	48.7500	48.6300	48.7800

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From the above calculation we arrive at the following outright rates;

	Buying	Selling
Spot delivery	USD 1 = ₹ 48.4000	48.4200
Forward delivery February	48.6000	48.6300
Forward delivery March	48.7500	48.7800

If the forward currency is at discount, it would be indicated by quoting the forward margin in the descending order. Suppose that on 20th April, the quotation for pound sterling in the interbank market is as follows:

Spot	GBR1=	₹ 73.4000/4300
Spot/May		3800/3600
Spot/June		5700/5400

Since the forward margin is in descending order (3800/3600), forward sterling is at discount. The outright forward rates are calculated by deducting the related discount from the spot rate. Thus is shown below:

	Buying rate		Selling rate	
	May	June	May	June
Spot rate	73.4000	73.4000	73.4300	73.4300
Less; discount	0.3800	0.5700	0.3600	0.5400
	73.0200	72.8300	73.0700	72.8900

From the above calculations the outright rates for pound sterling cab be restated as follows;

From the above calculations the outright rates for pound sterling cab be restated as follows;

	Buying	Selling
Spot	GBR 1 = Rs. 73.4000	73.4300
Forward delivery May	73.0200	73.0700
Forward delivery June	72.8300	72.8900

Factors Determining Spot Exchange Rates

1. **Balance of Payments:** Balance of Payments represents the demand for and supply of foreign exchange which ultimately determine the value of the currency. Exports, both visible and invisible, represent the supply side for foreign exchange. Imports, visible and invisible, create demand for foreign

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exchange. Put differently, export from the country creates demand for the currency of the country in the foreign exchange market. The exporters would offer to the market the foreign currencies they have acquired and demand in exchange the local currency. Conversely, imports into the country will increase the supply of the currency of the country in the foreign exchange market.

When the balance of payments of a country is continuously at deficit, it implies that the demand for the currency of the country is lesser than its supply. Therefore, its value in the market declines. If the balance of payments is surplus continuously it shows that the demand for the currency in the exchange market is higher than its supply therefore the currency gains in value.

(2) Inflation: Inflation in the country would increase the domestic prices of the commodities. With increase in prices exports may dwindle because the price may not be competitive. With the decrease in exports the demand for the currency would also decline; this in turn would result in the decline of external value of the currency. It may be noted that unit is the relative rate of inflation in the two countries that cause changes in exchange rates. If, for instance, both India and the USA experience 10% inflation, the exchange rate between rupee and dollar will remain the same. If inflation in India is 15% and in the USA it is 10%, the increase in prices would be higher in India than it is in the USA. Therefore, the rupee will depreciate in value relative to US dollar.

Empirical studies have shown that inflation has a definite influence on the exchange rates in the long run. The trend of exchange rates between two currencies has tended to hover around the basic rate discounted for the inflation factor. The actual rates have varied from the trend only by a small margin which is acceptable. However, this is true only where no drastic change in the economy of the country is. New resources found may upset the trend. Also, in the short run, the rates fluctuate widely from the trend set by the inflation rate. These fluctuations are accounted for by causes other than inflation.

(3) Interest rate: The interest rate has a great influence on the short – term movement of capital. When the interest rate at a centre rises, it attracts short term funds from other centers. This would increase the demand for the currency at the centre and hence its value. Rising of interest rate may be adopted by a country due to tight money conditions or as a deliberate attempt to attract foreign investment. Whatever be the intention, the effect of an increase in interest rate is to strengthen the currency of the country through larger inflow of investment and reduction in the outflow of investments by the residents of the country.

(4) Money Supply An increase in money supply in the country will affect the exchange rate through causing inflation in the country. It can also affect the exchange rate directly.

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An increase in money supply in the country relative to its demand will lead to large scale spending on foreign goods and purchase of foreign investments. Thus the supply of the currency in the foreign exchange Management is increased and its value declines. The downward pressure on the external value of the currency then increases the cost of imports and so adds to inflation.

The effect of money supply on exchange rate directly is more immediate than its effect through inflation. While in the long run inflation seems to correlate exchange rate variations in a better way, in the short run exchange rates move more in sympathy with changes in money supply.

One explanation of how changes in money supply vary the exchange rate is this; the total money supply in the country represents the value of total commodities and services in the country. Based on this the outside world determines the external value of the currency. If the money supply is doubles, the currency will be valued at half the previous value so as to keep the external value of the total money stock of the country constant.

Another explanation offered is that the excess money supply flows out of the country and directly exerts a pressure on the exchange rate. The excess money created, the extent they are in excess of the domestic demand for money, will flow out of the country. This will increase the supply of the currency and pull down its exchange rate.

(5) National Income: An increase in national income reflects increase in the income of the residents of the country. This increase in the income increases the demand for goods in the country. If there is underutilized production capacity in the country, this will lead to increase in production. There is a chance for growth in exports too. But more often it takes time for the production to adjust to the increased income. Where the production does not increase in sympathy with income rise, it leads to increased imports and increased supply of the currency of the country in the foreign exchange market. The result is similar to that of inflation, viz., and decline in the value of the currency. Thus an increase in national income will lead to an increase in investment or in consumption, and accordingly, its effect on the exchange rate will change. Here again it is the relative increase in national incomes of the countries concerned that is to be considered and not the absolute increase.

(6) Resource Discoveries when the country is able to discover key resources, its currency gains in value. A good example can be the have played by oil in exchange rates. When the supply of oil from major suppliers, such as Middles East, became insecure, the demand fro the currencies of countries self sufficient in oil arose. Previous oil crisis favoured USA, Canada, UK and Norway and adversely affected the currencies of oil importing countries like Japan and Germany. Similarly, discovery oil by some countries helped their currencies to gain in value. The discovery of North Sea oil by Britain

helped pound sterling to rise to over USD 2.40 from USD 1.60 in a couple of years. Canadian dollar also benefited from discoveries of oil and gas off the Canadian East Coast and the Arctic.

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(7) **Capital Movements** there are many factors that influence movement of capital from one country to another. Short term movement of capital may be influenced buy the offer of higher interest in a country. If interest rate in a country rises due to increase in bank rate or otherwise, there will be a flow of short term funds into the country and the exchange rate of the currency will rise. Reverse will happen in case of fall in interest rates.

Bright investment climate and political stability may encourage portfolio investments in the country. This leads to higher demand for the currency and upward trend in its rate. Poor economic outlook may mean repatriation of the investments leading to decreased demand and lower exchange value for the currency of the country.

Movement of capital is also caused by external borrowing and assistance. Large scale external borrowing will increase the supply of foreign exchange in the market. This will have a favorable effect on the exchange rate of the currency of the country. When repatriation of principal and interest starts the rate may be adversely affected.

(8) **Political factors** Political stability induced confidence in the investors and encourages capital inflow into the country. This has the effect of strengthening the currency of the country. On the other hand, where the political situation in the country is unstable, it makes the investors withdraw their investments. The outflow of capital from the country would weaken the currency. Any news about change in the government or political leadership or about the policies of the government would also have the effect of temporarily throwing out of gear the smooth functioning of exchange rate mechanism.

Functions of foreign Exchange Market

The foreign exchange market is a market in which foreign exchange transactions take place.

Transfer of Purchasing Power

The Primary function of a foreign exchange market is the transfer of purchasing power from one country to another and from one currency to another. The international clearing function performed by foreign exchange Management plays a very important role in facilitating international trade and capital movement.

Provision of credit

The credit function performed by foreign exchange Management also plays a very important role in the growth of foreign trade, for international trade depends to a great extent on credit facilities. Exporters may get pre shipment and post shipment

credit. Credit facilities are available also for importers. The Euro dollar market has emerged as a major international credit market.

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Provision of Heding Facilities

The other important of the foreign exchange market is to provide hedging facilities. Heding refers to covering of foreign trade risks, and it provides a mechanism to exporters and importers to guard themselves against losses arising from fluctuations in exchange rates.

Methods of Affecting International Payments

There are important methods to effect international payments.

Transfers

Money may be transferred from a bank in one country to a bank in another part of the world be electronic or other means

Cheques and Bank Drafts

International payments may be made be means of cheques and bank drafts. The latter is widely used. A bank draft is a cheque drawn on a bank instead of a customers personal account. It is an acceptable means of payment when the person tendering is not known, since its value is dependent on the standing of a bank which is widely known, and not on the credit worthiness of a firm or individual known only to a limited number of people.

Foreign Bill of Exchange

A bill of exchange is an unconditional order in writing, addressed by one person to another, requiring the person to whom it is addressed to pay a certain sum or demand or on a specified future date.

There are two important differences between inland and foreign bills. The date on which an inland bill is due for payment is calculated from the date on which it was drawn, but the period of a foreign bill runs fro m the date on which the bill was accepted. The reason for this is that the interval between a foreign bill being drawn and its acceptance may be considerable, since it may depend on the time taken for the bill to pass fro m the drawers country to that of the acceptor. The second important difference between the two types of bill is that the foreign bill is generally drawn in sets of three, although only one of them bears a stamp and of course one of them is paid.

Now days it is mostly the documentary bill that is employed in international trade. This is nothing more than a bill of exchange with the various shipping documents the bill of lading, the insurance certificate and the consular invoice attached to it. By using this the exporter can make the release of the documents conditional upon either

(a) payment of the bill if it has been drawn at sight or

(b) Its acceptance by the importer if it has been drawn for a period.

Transactions in the foreign Exchange Market

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A very brief account of certain important types of transactions conducted in the foreign exchange market is given below Spot and Forward Exchanges

Spot Market The term spot exchange refers to the class of foreign exchange transaction which requires the immediate delivery or exchange of currencies on the spot. In practice the settlement takes place within two days in most Management. The rate of exchange effective for the spot transaction is known as the spot rate and the market for such transactions is known as the spot market.

Forward Market The forward transactions is an agreement between two parties, requiring the delivery at some specified future date of a specified amount of foreign currency by one of the parties, against payment in domestic currency be the other party, at the price agreed upon in the contract. The rate of exchange applicable to the forward contract is called the forward exchange rate and the market for forward transactions is known as the forward market.

The foreign exchange regulations of various countries generally regulate the forward exchange transactions with a view to curbing speculation in the foreign exchanges market. In India, for example, commercial banks are permitted to offer forward cover only with respect to genuine export and import transactions.

Forward exchange facilities, obviously, are of immense help to exporters and importers as they can cover the risks arising out of exchange rate fluctuations be entering into an appropriate forward exchange contract.

With reference to its relationship with spot rate, the forward rate may be at **par, discount or premium.**

If the forward exchange rate quoted is exact equivalent to the spot rate at the time of making the contract the forward exchange rate is said to be **at par.**

The forward rate for a currency, say the dollar, is said to be **at premium** with respect to the spot rate when one dollar buys more units of another currency, say rupee, in the forward than in the spot rate on a per annum basis.

The forward rate for a currency, say the dollar, is said to be **at discount** with respect to the spot rate when one dollar buys fewer rupees in the forward than in the spot market. The discount is also usually expressed as a percentage deviation from the spot rate on a per annum basis.

The forward exchange rate is determined mostly be the demand for and supply of forward exchange. Naturally when the demand for forward exchange exceeds its supply, the forward rate will be quoted at a premium and conversely, when the supply of forward exchange exceeds the demand for it, the rate will be

quoted at discount. When the supply is equivalent to the demand for forward exchange, the forward rate will tend to be at par.

Futures

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While a focus contract is similar to a forward contract, there are several differences between them. While a forward contract is tailor made for the client be his international bank, a future contract has standardized features the contract size and maturity dates are standardized. Futures cab traded only on an organized exchange and they are traded competitively. Margins are not required in respect of a forward contract but margins are required of all participants in the futures market an initial margin must be deposited into a collateral account to establish a futures position.

Options

While the forward or futures contract protects the purchaser of the contract fro m the adverse exchange rate movements, it eliminates the possibility of gaining a windfall profit from favorable exchange rate movement.

An option is a contract or financial instrument that gives holder the right, but not the obligation, to sell or buy a given quantity of an asset as a specified price at a specified future date. An option to buy the underlying asset is known as a call option and an option to sell the underlying asset is known as a put option. Buying or selling the underlying asset via the option is known as exercising the option. The stated price paid (or received) is known as the exercise or striking price. The buyer of an option is known as the long and the seller of an option is known as the writer of the option, or the short. The price for the option is known as premium.

Types of options: With reference to their exercise characteristics, there are two types of options, American and European. A European option cab is exercised only at the maturity or expiration date of the contract, whereas an American option can be exercised at any time during the contract.

Swap operation

Commercial banks who conduct forward exchange business may resort to a swap operation to adjust their fund position. The term swap means simultaneous sale of spot currency for the forward purchase of the same currency or the purchase of spot for the forward sale of the same currency. The spot is swapped against forward. Operations consisting of a simultaneous sale or purchase of spot currency accompanies by a purchase or sale, respectively of the same currency for forward delivery are technically known as swaps or double deals as the spot currency is swapped against forward.

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Arbitrage

Arbitrage is the simultaneous buying and selling of foreign currencies with intention of making profits from the difference between the exchange rate prevailing at the same time in different Management

Forward Contract

Forward contracts are typical OTC derivatives. As the name itself suggests, forward are transactions involving delivery of an asset or a financial instrument at a future date. One of the first modern to arrive contracts as forward contracts ere known was agreed at Chicago Boar of Trade in March 1851 for maize corn to be delivered in June of that year.

Characteristics of forward contracts

The main characteristics of forward contracts are given below;

- They are OTC contracts
- Both the buyer and seller are committed to the contract. In other words, they have to take deliver and deliver respectively, the underlying asset on which the forward contract was entered into. As such, they do not have the discretion as regards completion of the contract.
- Forwards are price fixing in nature. Both the buyer and seller of a forward contract are fixed to the price decided upfront.
- Due to the above two reasons, the pay off profiles of the borrower and seller, in a forward contract, are linear to the price of the underlying.
- The presence of credit risk in forward contracts makes parties wary of each other. Consequently forward contracts are entered into between parties who have good credit standing. Hence forward contracts are not available to the common man.

Determining Forward Prices

In principle, the forward price for an asset would be equal to the spot or the case price at the time of the transaction and the cost of carry. The cost of carry includes all the costs to be incurred for carrying the asset forward in time. Depending upon the type of asset or commodity, the cost of carry takes into account the payments and receipts for storage, transport costs, interest payments, dividend receipts, capital appreciation etc. Thus

Forward price = Spot or the Cash Price + Cost of Carry

Merchant Rate

The foreign exchange dealing of a bank with its customer is known as merchant business and the exchange rate at which the transaction takes place is the merchant rate. The merchant business in which the contract with the customer to buy or sell

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foreign exchange is agreed to and executed on the same day is known as ready transaction or cash transaction. As in the case of interbank transactions a value next day contract is deliverable on the next business day and a spot contract is deliverable on the second succeeding business day following the date of the contract. Most of the transactions with customers are on ready basis. In practice, the term ready and spot are used synonymously to refer to transactions concluded and executed on the same day.

Foreign Exchange Transactions

Foreign exchange dealing is a business in which foreign currency is the commodity. It was seen earlier that foreign currency is not a legal tender. The US dollar cannot be used for settlement of debts in India; nevertheless, it has value. The value of US dollar is like the value of any other commodity. Therefore, the foreign currency can be considered as the commodity in foreign exchange dealings.

Purchase and Sale transactions

Any trading has two aspects (i) Purchase (ii) sale. A trader has to purchase goods from his suppliers which he sells to his customers. Likewise the bank (which is authorized to deal in foreign exchange) purchases as well as sells its commodity the foreign currency.

Two points need be constantly kept in mind while talking of a foreign exchange transaction:

1. The transaction is always talked of from the banks point of view
2. The item referred to is the foreign currency.
   (i) the bank has purchased
   (ii) it has purchased foreign currency
   (iii) the bank has sold
   (iv) it has sold foreign currency.

In a purchase transaction the bank acquired foreign currency and parts with home currency.

In a sale transaction the bank parts with foreign currency and acquires home currency.

Exchange Quotations

We have seen that exchange rates can be quoted in either of the two ways; (a)direct quotation (b) indirect quotation.

The quotation in which exchange rate is expressed as the price per unit of foreign currency in terms of the home currency is k known as Home currency quotation or Direct quotation. It may be noted that under direct quotation the number of units of foreign currency is kept constant and any change in the exchange

rate will be made by changing the value in term of rupees. For instance, US dollar quoted at ₹ 48 may be quoted at Rs 46 or ₹ 49 as may be warranted.

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The quotation in which the unit of home currency is kept constant and the exchange rate is expressed as so many unit of foreign currency is known as Foreign Currency quotation or Indirect quotation or simply Currency Quotation. Under indirect quotation, any change in exchange rate will be effected by changing the number of units of foreign currency.

Basis for Merchant Rates

When the bank buys foreign exchange from the customer, it expects to sell the same in the interbank market at a better rate and thus make a profit out of the deal. In the interbank market, the bank will accept the rate as dictated by the market. It can, therefore, sell foreign exchange in the market at the market buying rate for the currency concerned. Thus the interbank buying rate forms the basis for quotation of buying rate by the bank to its customer.

Similarly, when the bank sells foreign exchange to the customer, it meets tele commitment by purchasing the required foreign exchange from the interbank market. It can acquire foreign exchange from the market at the market selling rate. Therefore the interbank selling rate forms the basis for quotation of selling rate to the customer buy the bank.

The interbank rate on the basis of which the bank quotes its merchant rate is known as the base rate.

Exchange Margin

If the bank quotes the base rate to the customer, it makes no profit. On the other hand, there are administrative costs involved. Further the deal with the customer takes p-lace first. Only after acquiring or selling the foreign exchange from to the customer, the bank goes to the interbank market to sell or acquire the foreign exchange required to cover the deal with the customer. An hour or two might have lapsed by this time. The exchange rates are fluctuating constantly and by the time the deal with the market is concluded, the exchange rate might have turned adverse to the bank. Therefore sufficient margin should be built into the rate to cover the administrative cost, cover the exchange fluctuation and provide some profit on the transaction to the bank. This is done by loading exchange margin to the base rate. The quantum of margin that is built into the rate is determined by the bank concerned, keeping with the market trend.

Principal types of Buying Rates

In a purchase transaction the bank acquires foreign exchange from the customer and pays him in Indian rupees. Some of the purchase transactions result in the bank acquiring foreign exchange immediately, while some involve delay in the acquisition of foreign exchange. For instance, if the bank pays a demand drawn on

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it by its correspondent bank, there is no delay because the foreign corresponded bank would already have credited the nostro account of the paying bank while issuing the demand draft. On the other hand, if the bank purchases on On demand bill from the customer, it has first to be sent to the draws place for collection. The bill will be sent to the correspondent bank for collection. The correspondent bank will present the bill to the drawee.

Depending upon the tine of realization of foreign exchange by the bank, two types of buying rates are quoted in India. They are

(i) TT Buying Rate
(ii) Bill Buying Rate

(i) TT Buying Rate (TT stands for Telegraphic Transfer)

This is the rate applied when the transaction does not involve any delay in realization of the foreign exchange by the bank. In other words, the nostro account of the bank would already have been credited. The rate is calculated by deducting from the interbank buying rate the exchange margin as determined by the bank.

Though the name implies telegraphic transfer, it is not necessary that the proceeds of the transaction are received by telegram. Any transaction where no delay is involved in the bank acquiring the foreign exchange will be done at the TT rate.

Transaction where TT rate is applied is;

1. Payment of demand drafts, mail transfers, telegraphic transfers, etc drawn on the bank where banks nostro account is already credited
2. Foreign bills collected. When a foreign bill is taken for collection, the bank pays the exporter only when the importer pays for the bill and the banks nostro account abroad is credited
3. Cancellation of foreign exchange sold earlier. For instance, the purchaser of a bank draft drawn on New York may later request the bank to cancel the draft and refund the money to him. In such case, the bank will apply the TT buying rate to determine the rupee amount payable to the customer.

(ii) Bill Buying Rate

This is the rate to be applied when a foreign bill is purchased. When a bill is purchased, the rupee equivalent of the bill value is paid to the exporter immediately. However, the proceeds will be realized by the bank after the bill is presented to the drawee at the overseas centre. In case pf a usance bill, the proceeds will be realized on the due date of the bill which includes the transit period and the usance period of the bill.

Principle types of selling rates

When a bank sells foreign exchange it receives Indian rupees from the customer and parts with foreign currency. The sale is affected by issuing a payment instrument on the correspondent bank with which it maintains the nostro account. immediately on sale, the bank buys the requisite foreign exchange from the market and gets its nostro account credited with the amount so that when the payment instrument issued buy its is presented to the corresponded bank it can be honored by debit to the nostro account. However, depending upon the work involved, viz., whether the sale involves handling of documents by the bank or not, two types of selling rates are quoted in India, they are

1. TT selling rate
2. Bills selling rate

1. TT Selling Rate

This is the rate to be used for all transactions that do not involve handling of documents by the bank.

Transactions for which this rate is quoted are:

(1) Issue of demand drafts, mail transfers, telegraphic transfer, etc., other than for retirement of an import bill.

(2) Cancellation of foreign exchange purchased earlier. For instance, when an export bill purchased earlier is returned unpaid on its due date, the bank will apply the TT selling rate for the transaction.

2. Bills Selling Rate

This rate is to be used for all transactions which involve handling of document by the bank: for example, payment against import bills.

The bills selling rate is calculated by adding exchange margin to the TT selling rate. That means the exchange margin enters into the bills selling rate twice, once on the interbank rate and again on the TT selling rate.

Ready Rates Based on Cross Rates

The exchange rates for other currencies are quoted to customers based on the rates for the currency concerned prevailing in international foreign exchange Management like London, Singapore and Hong Kong. There rates are available in terms of US dollar. They have to be converted into rupee terms before quoting to the customers. We shall first examine how exchange rate are quoted in international Management and then we shall see how these rates are used for quoting rates for currencies other then US dollar in India.

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Exchange quotations in International Management

In International Management, barring few exceptions, all rates are quoted in term of US dollar. For instance, at Singapore Swiss franc may be quoted at 1.5425/5440 and Japanese yen at 104.67/70. This should be understood as;

USD 1 = CHF 1.5425 – 1.5440

USD 1 = JPY 104.67 – 104.70

In interpreting an international market quotation, we may approach from the variable currency or the base currency, viz., the dollar. For instance we may take a transaction in which Swiss franc are received in exchange for dollars as

(a) Purchase of Swiss francs against Dollar

(b) Sale of Dollar against Swiss francs.

The quotation for Swiss franc is CHF 1.5425 and CHF 1.5440 per Dollar. While buying dollar the quoting bank would part with fewer francs per dollar and while selling dollars would require as many francs as possible. Thus, CHF 1.5425 is the dollar buying rate and DEM 1.5440 is the dollar selling rate. It may be observed that when viewed from dollar, the exchange quotation partakes the character of a direct quotation and the maxim Buy low: Sell high is applicable.

Forward Margin/Swap Points

Dollar/Foreign Currency Quotation

At Singapore market dollar may be quoted against Deutsche mark and French franc as follows:

	Swiss Franc	Japanese Yen
Spot	1.5425/40	104.67/70
1 month forward	50/60	17/16
2 months forward	70/80	30/29

The forward margin (also called swap margin or swap points) is quoted in terms of points. A point is the last decimal place in the exchange quotation. Thus in a four digit quotation, a point is 0.0001. In a two decimal quotation it is 0.01

As against Swiss franc, the forward margin for dollar is CHF 0.0050/0.0060. Since the order in which the forward margin is ascending, forward dollar is at premium. Premium is added to the spot rate to arrive at the forward rates, both in respect of purchase and sale transactions.

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Based on the data given above, the forward rates for dollar against Swiss francs are arrived at as follows;

	Dollar Buying	Dollar Selling
1 month forward	CHF 1.5475	1.5500
2 months forward	CHF 1.5495	1.5520

Foreign Currency/Dollar Quotation

Let us assume the following exchange rates are prevailing

	Pound sterling	Euro
Spot	1.4326/48	0.9525/35
1 month forward	50/53	65/62
2 months forward	90/93	84/82

Against dollar, the forward pound – sterling is at premium. Premium should be added to the spot rate to arrive at the forward rate.

Thus the forward rates for pound sterling are as follows.

	Pound Sterling Buying	Pound sterling Selling
1 month forward	USD 1.4376	1.4401
2 months forward	USD 1.4416	1.4441

Cross Rates and Chain Rule

In India, buying rates are calculated on the assumption that the foreign exchange acquired is disposed of abroad in the international market and the proceeds realized in US dollars. The US dollars thus acquired would be sold in the local interbank market to realize the rupee. For example, if the bank purchased a CHF 10,000 bill it is assumed that it will sell the Swiss francs at the Singapore market and acquire US dollars there. The US dollars are then sold in the interbank market against Indian rupee.

The bank would get the rate for US dollars in terms of Indian rupees in India. This would be the interbank rate for US dollars. It would also get the rate for US dollars in terms of Swiss franc at the Singapore market. The bank has to quote the rate to the customer for Swiss franc in terms of Indian rupees.

The fixing of rate of exchange between the foreign currency and Indian rupee through the medium of some other currency is done by a method known as Chain Rule. The rate thus obtained is the Cross rate between these currencies.

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Role of FEDAI in Foreign Exchange

Authorized Dealers in Foreign Exchange (Ads) have formed an association called foreign Exchange Dealers Association of India (FEDAI) in order to lay down certain terms and conditions for transactions in./ Foreign Exchange Business. Ad has to given an undertaking to Reserve Bank of India to abide by the exchange control and other terms and conditions introduced by the association for transactions in foreign exchange business. Accordingly FEDAI has evolved various rules for various transactions in order to protect the interest of the exporters, importers general public and also the authorized in dealers. FEDAI which is a company registered under Section 25 of the companies Act, 1956 has subscribed to the

1. Uniform customs and practice for documentary credits (UCPDC)
2. Uniform rules for collections(URC)
3. Uniform rules for bank to bank reimbursement.

Various rules of FEDAI

Rules No 1. of FEDAI deals with hours of business of banks which is the normal banking hours of ADs. On Saturdays no commercial transaction in foreign exchange will be conducted except purchase/sale of traveler's cheques and currency notes and transactions where exchange rates have been already fixed.

Rules No.2 deals with export transactions export bills purchased/discounted negotiation, export bills for collection export letters of credit, etc.

Application of Rates of Crystallization of Liabilities and Recovers

1. Foreign currency bill will be purchased/ negotiation / discounted at the Authorized Dealers current bill purchase rate or at the contract rate.
2. Exporters are liable for the repatriation of proceeds of the export bills negotiated/purchased/discounted sent for collection through the Authorized Dealers. They would transfer the exchange risk to the exporter by crystallizing, the foreign currency liability into Rupee liability on the 30^{th} day after the transit period in case of unpaid demand bills. In case of unpaid usance bills crystallization will take place on the 30^{th} day after notional due date or actual due date. Notional due date is arrived at by adding transit period, usance period and grace period if any to the date of purchase/discount/ negotiation. In case 30^{th} day happens to be a holiday or Saturday, the export bill will be crystallized on the next working day. For crystallization into rupee liability the bank will apply the TT selling rate on the date of crystallization the original buying rate whichever is higher. Normal Transit period comprises usual time involved from negotiation/purchase/discount of documents till receipt of proceeds there of in the Nostro account. It is not, as is commonly misunderstood, the time taken for the arrival of goods at the destination.

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CRYSTALLISATION OF IMPORT BILLS (RULES 30)

All foreign currency import bills drawn under letter of credit shall be crystallized into Rupee liability on the 10th day from the date of c\receipt of documents at the letter of credit opening bank in the case of demand bills and on the due date in the case of usance bills. In case the 10th day or due date falls on a holiday or Saturday the importers liability should be crystallized, into Rupee liability on the next working day.

INTEREST ON EXPORT BILLS/NORMAL TRANSIT PERIOD

Concessional rate of interest on export bills is linked to the concept of normal transit period and notional due date. Normal transit period comprised the average period normally in involved from the date of negotiation/purchase/discount till the receipt of bill proceeds in the Nostro account of the bank. Normal Transit period is not to be confused with the time taken for the arrival of goods at the destination.

In case of bills payable at sight or on demand basis Concessional rate of interest ad directed by the RBI on export bill is applicable for the normal transit period in case of all foreign currency bills.

In case of usance bills, Concessional rate of interest as directed by the RBI on export bills is applicable for the normal transit period plus usance period. Thus a foreign currency bill payable for example at 60 days after sight will be eligible for Concessional interest rate for 60 days usance plus the normal transit period of 25 days, i.e., a total number of 85 days.

Normal Transit period for purpose of all bills in foreign Currencies 25 days.

INTEREST ON IMPORT BILLS

A. Bills negotiated under import letter of credit shall carry domestic commercial rate of interest as applicable to advances prescribed by Reserve Bank of India from time to time and shall be recovered from the date of debit to the AD's Nostro account to the date of crystallization/retirement whichever earlier.

B. From the dates of crystallization up to the date of retirement the bills shall carry the overdue rate of interest as specified by Reserve Bank of India from time to time.

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EXCHANGE CONTRACTS

Exchange contracts shall be for definite amount unless date of delivery is fixed and indicated in the contract, the option period of delivery should be specified as.

a. The option of delivery shall not exceed beyond, one month. The merchant whether a buyer or a seller will have the option of delivery.
   i. Early delivery: If a bank accepts or gives early delivery the bank shall recover/pay swap difference if any.
   ii. Extension: forward contract either short term or long term contracts where extension is sought by the customers (or as rolled over) shall be cancelled (at TT selling or buying rate as on the date of cancellation) and re book only at (current rate of exchange). The difference between the contracted rate and the rate at which the contract is cancelled should be recovered from/paid to be customer at the time of extension. Such request for the extension should be made on or before the maturity date of the contract.
   iii. Cancellation: In the case of cancellation of a contract at the request of the customer, the bank shall recover/pay as the case may be difference between the contract rate and the rate at which the cancellation is effected.
b. Rate at which cancellation to be effected.
   i. Purchase contract shall be cancelled at the contracting banks spot TT selling rate current on the dater of cancellation.
   ii. Sale contracts shall be cancelled at the contracting banks spot TT buying rate current on the date of cancellation.
   iii. Where the contract is cancelled before maturity the appropriate TT rate shall be applied.

SWAP Cost

a. If any shall be recovered from the customers under advise to him.
b. In the absence of any instruction from the customer contracts which have matured shall on the 15th day from the date of maturity be automatically cancelled. In case the 15th day falls on a Saturday or holiday the contract will be cancelled on the succeeding working day.

In the above case the customer will not be entitles to the exchange different if any since the contract is cancelled on account of his default.

In case of delivery subsequent to automatic cancellation the appropriate current rate prevailing on such delivery date shall be applied.

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Payment of SWAP gains to the customer will normally be made at the end of the swap period.

Outlay and inflow of funds

A. Interest at not below the prime lending rate of the respective bank on outlay of funds by the bank for the purpose of covering the swap shall be recovered in addition to be swap cost, in case early delivery of purchase or sale contracts and early realization do export bill negotiated. The amount of funds out laid shall be arrived at by calculating the difference between the original contracted rate and the rate at which swap could be arranged.

B. If such a swap leads to inflow of funds the amount shall be paid at the discretion of banks to the customer at the appropriate rate applicable for the term deposits the period for which the funds remained with the bank.

C. Banks will levy a minimum charge of ₹ 250 for every request from a customer for early delivery, extension or cancellation of a contract.

Reserve Bank of India Act, 1934

The RBI of India performs both the traditional functions of a central bank and a variety of developmental and promotional functions. The RBI Act, 1934, confers upon it the powers to act as not issuing authority, banker's bank and banker to the Government.

Reserve Bank as Note Issuing Authority

The Currency of our country consists of one rupee notes and coins (including subsidiary coins) issued by the Government of India and bank notes issued by the Reserve Bank. As required by section 38 of the RBI act, Government puts into circulation one rupee coins and notes through Reserve Bank only. The

Reserve Bank has the sole right to issue bank notes in India. The notes issued by the Reserve Bank and the one rupee notes and coins issued by the Government are unlimited legal tender. Reserve Bank also bears the responsibility of exchanging notes and coins into those of other denominations as required by the public.

As required by the Reserve Bank of India Act, the issue of notes and the general banking business of the Bank are undertaken by two separate departments of the Bank. The Issue Department is responsible for the issue of new notes. It keeps its assets, which form the backing for the note issue, quite separate from the assets of the Banking Department.

Exchange Control in India

Any transaction in foreign Exchange is governed by Foreign Exchange Management ACT 1999. The FERA had its origin by defense of India rules (DIR) 1935. This control was exercised in order to ensure the foreign exchange particularly

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due to severe constraints on exchange reserve due to Second World War. Later on 23 March 1947 this rule became in the State Book as Foreign Exchange Regulation Act 1947. Later this act modified with certain amendments in 1973 and become effective from 01.01.1974. Further relaxation of this affect was effected since 1994. The same was repealed from 1st June, 2000 and all foreign exchange transactions from this date will be governed by the provisions of the Foreign Exchange Management Act 1999.

As per the foreign exchange Management Act 1999 the Reserve Bank of India principally controls the movement of the Foreign Exchange of the country. As per sec 11 (1) of FEMA, the Reserve Bank may for the purpose of securing compliance with the provisions of this act and any rules, regulations, notification or directions made there under give to the authorized person any direction in regard to making of payment or the doing or desist from doing any act relating to foreign security.

As per Section 11(2) of the act the Reserve Bank may for the purpose of ensuring the compliance with the provisions of the Act or of any rules regulations notification or order made there under direct any authorized person to furnish such information in such manners as it deem fit.

As per Section 11 (3) where any authorized person contravenes any direction given by the Reserve Bank under this act or fail to file any return as directed by the Reserve Bank, the Reserve Bank may after giving reasonable opportunities of being heard impose on the authorized person a penalty which may extent to ten thousand rupees and in the case of continuing contravention with an additional penalty which may extend to two thousand rupees for every day during which such contravention continues.

The Exchange control Manual published by Reserve Bank if India gives various directives to authorized dealers in foreign exchange. The authorized dealers in foreign exchange are expected to strictly follow the directives of RBI in exchange control manual without any deviation.

UNIT 2

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Lesson 1: Exchange Rates – Exchange rate systems – Gold Standard – Bretton Woods - Fixed Vs Floating Exchange Rate systems

Objectives

After studying this lesson you should be able

- To understand various monetary systems have been in practice from time to time.
- To know about gold standard and its implications in international monetary environment.
- To know about Bretton Woods system and its implications in international monetary environment.
- To know the differences between fixed and floating exchange rate systems.

Structure

1.1 INTRODUCTION

The increased volatility of exchange rates is one of the main economic developments of recent past. Under the current system of partly floating and partly fixed exchange rates, the earnings of multinational firms, banks, and individual investors have been subjected to significant real and paper fluctuations as a result of changes in relative exchange rates. Although volatile exchange rates may increase risk, they also create profit opportunities for both firms and investors, given a proper understanding of exchange risk management. The international monetary system can be defined as the structure within which foreign exchange rates are determined, international trade and capital flows are accommodated, and balance of payments adjustments made. It also includes all the instruments, institutions, and agreements that link together the world's currency, money Management, securities, real estate and commodity Management.

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1.2 EXCHANGE RATE SYSTEMS

Over the ages, currencies have been defined in terms of gold and other items of value, and the international monetary system has been subject to a variety of international agreements. A brief history of these systems provides useful perspective against which to compare today's system and to evaluate weaknesses and proposed changes in the present system. In the following sections various monetary standards that were in practice since 19th century were briefly explained. The international monetary system has evolved historically from the gold standard (1876-1913) of fixed exchange rates, to the interwar years and World War II (1914-1944) with floating exchange rates, to fixed exchange rates (1945-1973) under the Bretton Woods Agreement, to the present eclectic currency arrangement (1973-present) of fixed, floating, and managed exchange rates. In the following sections an attempt has been made to explain them briefly for understanding of their significance in international monetary environment.

1.3 THE GOLD STANDARD (1876 – 1913)

A system of setting currency values whereby the participating countries commit to fix the prices of their domestic currencies in terms of a specified amount of gold. The gold standard as an international monetary system gained acceptance in Western Europe in the 1870s. The United States was something of a latecomer to the system, not officially adopting the standard until 1879.

The –rules of the game under the gold standard were clear and simple. Each country set the rate at which its currency (paper or coin) could be converted to a weight of gold. The United States, for example, declared the dollar to be convertible to gold at a rate of \$20.67/ounce of gold (a rate in effect until the beginning of World War 1). The British pound was pegged at £4.2474/ounce of gold. As long as both currencies were freely convertible into gold, the dollar/pound exchange rate was:

$$\frac{\$20.67/\text{ounce of gold}}{£4.2474/\text{ounce of gold}} = \$4.8665/£$$

Because the government of each country on the gold standard agreed to buy or sell gold on demand to anyone at its own fixed parity rate, the value of each individual currency in terms of gold, and therefore the fixed parities between currencies, was set. Under this system it was very important for a country to maintain adequate reserves of gold to back its currency's value. The system also had the effect of implicitly limiting the rate at which any individual country could expand its money supply. The growth in money was limited to the rate at which

additional gold could be acquired by official authorities. The gold standard worked adequately until the outbreak of World War 1 interrupted trade flows and the free movement of gold. This caused the main trading nations to suspend the operation of the gold standard.

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1.3.1 Advantages of Gold Standard

Several advantages are claimed for the gold standard, especially when it is adopted simultaneously by a number of countries, i.e., international gold standard.

(i) It is an objective system and is not subject to the changing policies of the government or the whims of the currency authority.

(ii) Gold standard enables the country to maintain the purchasing power of its currency over long periods. This is so because the currency and credit structure is ultimately based on gold in possession of the currency authority.

(iii) Another important advantage claimed for gold standard is that it preserves and maintains the external value of the currency (rate of exchange) within narrow limits. As a matter of fact, within the gold standard system, it provides fixed exchanges, which is a great boon to traders and investors. International division of labour is greatly facilitated.

(iv) It gives, in fact, all the advantages of a common international currency. It establishes an international measure of value. As Marshall pointed out before the Fowler Committee (Report on Indian Currency) in 1898, the change to a gold basis is like a movement towards bringing the railway gauge on the side branches of the world's railway into unison with the main lines. This greatly facilitates foreign trade, because fluctuations in rates of exchange hamper international trade.

(v) It is further claimed that gold standard helps to adjust the balance of payments between countries automatically. How this happens may be illustrated by a simple example. Suppose England and America are both on gold standard and only trade with each other, and that a balance of payments is due from England to America. Gold will be exported from England to America. The Bank of England will lose gold. This will contract currency in England and bring about a fall in the British price level. Price level in America will rise due to larger reserves and the expansion of currency and credit. England will become a good market to buy from and a bad market to sell in. Conversely, America will become a good market to sell in and a bad market to buy from. British exports will be encouraged and imports discouraged.
American exports will be discouraged and imports encouraged. The balance of payments will tend to move in favour of Britain until equilibrium is reached. It is in this way, that movement of gold, by affecting prices and trade, keeps equilibrium among gold standard countries.

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1.3.2 Disadvantages of Gold Standard

(i) Gold standard is costly and the cost is unnecessary. We only want a medium of exchange, why should it be made of gold? It is a luxury. –The yellow metal could tickle the fancy of savages only.

(ii) Even the value of gold has not been found to be absolutely stable over long periods.

(iii) Under the gold standard, currency cannot be expanded in response to the requirements of trade. The supply of currency depends on the supply of gold. But the supply of gold depends on the success of the mining operations, which may have nothing to do with the factors affecting the growth of trade and industry in the country.

(iv) Gold standard has also been charged with sacrificing internal stability to external (exchange) stability. It is the international aspect of the gold standard which has been paid more attention to.

(v) Another disadvantage is that, under gold standard gold movements lead to changes in interest rates, so that investment is stimulated or checked solely in order to expand or reduce money income.

(vi) A country on a gold standard cannot follow an independent policy. In order to maintain the gold standard or to restore it (as in England after World War I), it may have to deflate its currency against its will. Deflation spells ruin to the economy of a country. It brings, in its wake, large-scale unemployment, closing of works and untold suffering attendant on depression.

1.3.3 Causes of the Break-down of the Gold Standard

The gold standard broke down in country after country soon after its rehabilitation during the post-1914-18 war decade. There were several reasons for this development:

(1) Gold was very unevenly distributed among the countries in the inter-war period. While the U.S.A. and France came to possess the bulk of it, other countries did not have enough to maintain a monetary system based in gold.

(2) Owing to general political unsettlement, a habit arose on the part of certain Continental countries to keep their funds for short periods in foreign central banks, especially in Great Britain. These funds were liable to be withdrawn at the earliest danger signal. Withdrawal of such funds from Britain on the part of France led to gold standard being suspended in 1931 in the former country. The Bank of England could not afford to lose its gold resources in large quantities at such a short notice.

(3) International trade was not free. Some countries often imposed stringent restrictions on imports, which created serious balance of payments problems for other countries. Not having enough gold to cover the gap, they threw

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the gold standard overboard. This specially happened during the Great Depression of early thirties.

(4) International obligation in the form of reparations and war debts arose out of World War I. Since the creditor countries refused to accept payments in the form of goods and also refused to continue lending to the debtors countries, the debts had to be cleared through gold movements. This led to concentration of 34 per cent of the world's gold in the U.S.A. and France, the two chief creditor countries. The gold left with the other countries was not enough to enable them to maintain gold standard successfully.

(5) The gold-receiving countries did not –play the game of the gold standard.

They (especially the U.S.A.) did not allow this gold to have any effect on their price levels. The gold was –sterilised or made ineffective. Had prices risen in these countries, imports would have been encouraged and exports discouraged and an unfavourable balance of trade would have led to movement of gold in the reverse direction. Since this was not allowed to happen, the gold standard failed to work automatically.

(6) Gold standard failed also because the economic structure of the countries concerned had become less and less elastic after the World War of 1914-18. This was due to several reasons: The enormous growth in the indebtedness of governments and local authorities resulted in a mass of interest payments fixed by contract over a long period of years. The huge expenditure in the form of payment to social services could not be easily reduced. The trade unions were now able to offer a much stronger resistance to wage cuts than before 1914. The prices of raw materials and finished goods were becoming more and more fixed by partial monopolies, cartel agreements, etc. The result was that prices no longer moved in the directions warranted by gold movements and equilibrium failed to be restored as of old.

(7) Another weakness that was discovered in the gold standard in practice was that it was always liable to collapse in a crisis. It has often been called a fair weather standard only.

(8) Another objection that was frequently urged against the system was that gold movements caused inconvenient changes in interest rates. Deflation, for instance, may be made necessary at a time of crisis to prevent suspension of the standard. But deflation, which involves falling wages and prices, may prove a cause of serious trouble. Wage cuts are resisted by trade unions, and falling prices increase the burden of fixed payments which the government or the people may have to make. Moreover, falling prices discourage enterprise and create unemployment.

A large volume of short-term capital was moving for safely from one financial centre to another. Big flows of this hot money necessitated large gold movements, which the slender gold reserves of the countries could not

maintain. Hence, gold standard was given up. Thus, it was that country after country abandoned the Gold Standard in the inter-war period (1914-1944).

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1.4 BRETTON WOODS (1944)

In 1944, as World War II drew toward a close, the Allied Powers met at Bretton Woods, New Hampshire, in order to create a new post-war international monetary system. The Bretton Woods Agreement, implemented in 1946, whereby each member government pledged to maintain a fixed, or pegged, exchange rate for its currency vis-à-vis the dollar or gold. These fixed exchange rates were supposed to reduce the riskiness of international transactions, thus promoting growth in world trade. The Bretton Woods Agreement established a US dollar-based international monetary system and provide for two new institutions, The IMF and the World Bank. The IMF aids countries with balance of payments and exchange rate problems. The International Bank for Reconstruction and Development (World Bank) helped post-war reconstruction and since then has supported general economic development.

The IMF was the key institution in the new international monetary system, and it has remained so to the present. The IMF was established to render temporary assistance to member countries trying to defend their currencies against cyclical, seasonal, or random occurrences. It also assists countries having structural trade problems if they take adequate steps to correct their problems. However, if persistence deficits occur, the IMF cannot save a country from eventual devaluation. In recent years it has attempted to help countries facing financial crises. It has provided massive loans as well as advice to Russia and other former Russian republics, Brazil, Indonesia, and South Korea, to name but a few.

Under the original provisions of the Bretton Woods Agreement, all countries fixed the value of their currencies for gold. Only the dollar remained convertible into gold (at $35 per ounce). Therefore, each country decided what it wished its exchange rate to be vis-à-vis the dollar and then calculated the gold per value of its currency to create the desired dollar exchange rate. Participating countries agreed to try to maintain the value of their currencies within 1% (later expanded to 2 ¼ %) of par by buying or selling foreign exchange or gold as needed. Devaluation was not to be used as a competitive trade policy, but if a currency became too weak to defend, a devaluation of up to 10% was allowed without formal approval by the IMF. Larger devaluations required IMF approval.

1.4.1 The Special Drawing Rights (SDRs)

The Bretton Woods also known as IMF system was an improvement on the gold standard. The IMF system had all the merits of the gold standard minus its demerits. It ensured exchange stability without the country having to undergo the expense of maintaining a costly currency system. Under the IMF system, exchange parities

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were fixed in gold but it was unnecessary to keep large gold reserves for currency purposes. Besides gold stocks and current output were utterly inadequate to meet the requirements of over-expanding volume of international trade, thus giving rise to the serious problem of international liquidity. The IMF sought to provide multilaterism. The IMF quota facilitated foreign exchange transactions and there was no need to export gold to meet a trade deficit. It also facilitated convertibility of currencies and provided adequate and convenient currency reserve for the use of member countries. However, fast changing circumstances are necessitated changes in the IMF system. In September 1967, the Board of Governors approved a plan for a new type of international asset known as the SDRs (Special Drawing Rights).

SDRs is an international reserve asset created by the IMF to supplement existing foreign exchange reserves. It serves as a unit of account for the IMF and other international and regional organizations, and it is also the base against which some countries peg the rate of exchange for their currencies. Defined initially in terms of a fixed quantity of gold, the SDR has been redefined several times. It is currently the weighted value of currencies of the five IMF members having the largest exports of goods and services. Individual countries hold SDRs in the form of deposits in the IMF. These holdings are part of each country's international monetary reserves, along with official holdings of gold, foreign exchange, and its reserve position at the IMF. Members may settle transactions among themselves by transferring SDRs.

Under the Scheme, the IMF is empowered to allocate to various member countries SDR's on a specified basis, which in effect amounts to raising the limit to which a member country can draw from the IMF in time of need. Besides, the SDR's supplement gold, dollars and pounds sterling most countries use as monetary reserves. They can be used unconditionally by the participating countries to meet their liabilities and they are not backed by gold. They are meant to be used by the Central banks of the Fund's member countries. With the SDR's, the Central banks can buy whatever currencies they need for settling their balance of payments deficits. The resources of the new scheme are not a pool of currencies but simply the obligation of participating members to accept the SDR's for settlement of payments between them. Thus, SDR's serve as an international money as good as other reserve currencies.

But a nicely and diligently built up system of exchange stability by the IMF collapsed like a house of cards. This was caused by the dollar crisis created by the adverse American balance of payments. Among the measures taken by the American administration, there was one which delinked dollar from gold. The delinking of dollar from gold knocked out the very foundation of the IMF. In January 1975, the IMF abolished the official price of gold and SDR's have instead become the basis of the present international monetary standard. The SDR's are not convertible into gold; that is why alternatively the present standard may also be referred to as Paper Gold Standard.

1.5 FIXED VS FLOATING EXCHANGE RATE SYSTEMS

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1.5.1 Fixed Exchange Rates, 1945-1973

The currency arrangement negotiated at Bretton Woods and monitored by the IMF worked fairly well during the post-World War II period of reconstruction and rapid growth in world trade. However, widely diverging national monetary and fiscal policies, differential rates of inflation, and various unexpected external shocks eventually resulted in the system's demise. The U.S. dollar was the main reserve currency held by central banks and was the key to the web of exchange rate values. Unfortunately, the United States ran persistent and growing deficits on its balance of payments. A heavy capital outflow of dollars was required to finance these deficits and to meet the growing demand for dollars from investors and businesses. Eventually, the heavy overhang of dollars held abroad resulted in a lack of confidence in the ability of the United States to meet its commitment to convert dollars to gold.

On August 15, 1971, President Richard Nixon was forced to suspend official purchases or sales of gold by the U.S. Treasury after the United States suffered outflows of roughly one-third of its official gold reserves in the first seven months of the year. Exchange rates of most of the leading trading countries were allowed to float in relation to the dollar and thus indirectly in relation to gold. By the end of 1971 most of the major trading currencies had appreciated vis-à-vis the dollar. This change was – in effect – a devaluation of the dollar.

In early 1973, the U.S. dollar came under attack once again, thereby forcing a second devaluation on February 12, 1973, this time by 10% to $42.22 per ounce. By late February 1973, a fixed –rate system no longer appeared feasible given the speculative flows of currencies. The major foreign exchange makets were actually closed for several weeks in March 1973. When they reopened, most currencies were allowed to float to levels determined by market forces. Par values were left unchanged. The dollar had floated downward an average of 10% by June 1973.

1.5.2 An Eclectic Currency Arrangement, 1973-Present

Since March 1973, exchange rates have become much more volatile and less predictable than they were during the –fixed exchange rate period, when changes occurred infrequently. In general the dollar has been volatile and has weakened somewhat over the long run. On the other hand, the Japanese yen and German mark have strengthened. The emerging market currencies have been exceptionally volatile and have generally weakened.

In the wake of the collapse of the Bretton Woods exchange rate system, the IMF appointed the Committee of Twenty which suggested various options for the

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exchange rate arrangement. These suggestions were approved at Jamaica during February 1976 and were formally incorporated into the text of the Second Amendment to the Articles of Agreement, which came into force from April 1978. The options were broadly:

1. Floating-independent and managed
2. Pegging of currency
3. Crawling peg
4. Target zone arrangement
5. Others

1. **Floating Rate System:** In a floating-rate system, it is the market forces that determine the exchange rate between two currencies. The advocates of the floating rate system put forth two major arguments. One is that the exchange rate varies automatically according to the changes in the macroeconomic variables. As a result, there is no gap between the real exchange rate and the nominal exchange rate. The country does not need any adjustment, which is often required in a fixed rate regime and so it does not have to bear the cost of adjustment. The other argument is that this system possesses insulation properties, meaning that the currency remains isolated from the shocks emanating from other counties. It also means that the government can adopt an independent economic policy without impinging upon the external sector performance.

   In case of Managed Floating with no preannounced path for the exchange rate, the monetary authority influences the movements of the exchange rate through active intervention in the foreign exchange market without specifying, or pre-commiting to, a pre-announced path for the exchange rate. In case of Independent Floating, the exchange rate is market-determined, with any foreign exchange intervention aimed at moderating the rate of change and preventing undue fluctuations in the exchange rate, rather than at establishing a level for it.

2. **Pegging of Currency:** Normally, a developing country pegs its currency to a strong currency or to a currency with which it conducts a very large part of its trade. Pegging involves fixed exchange rate with the result that trade payments are stable. But in case of trading with other countries, stability cannot be guaranteed. This is why pegging to a single currency is not advised if the country's trade is diversified.

   In such cases, pegging to a basket of currencies is advised. But if the basket is very large, multi-currency intervention may prove costly. Pegging to SDR is not different insofar as the value of the SDR itself is pegged to a basket of five currencies.

3. **Crawling Peg:** Again, a few countries have a system of a crawling peg. Under this system, they allow the peg to change gradually over time to

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catch up with changes in the market-determined rates. It is a hybrid of fixed-rate and flexible rate systems. So this system avoids too much of instability and too much of rigidity. In some of the countries opting for the crawling peg, crawling bands are maintained within which the value of currency is maintained. The currency is adjusted periodically in small amounts at a fixed, preannounced rate or in response to changes in selective quantitative indicators.

4. **Target Zone Arrangement:** In a target zone arrangement, the intra-zone exchange rates are fixed. An apposite example of such an arrangement was found in European Monetary Union (EMU) before coming in of Euro. However, there are cases where the member countries of a currency union do not have their own currency, rather they have a common currency. Under this group, come the member countries of the Eastern Caribbean Currency Union, the Western African Economic and Monetary Union, and the Central African Economic and Monetary Community. The member countries of the European Monetary Union too came under this group with the Euro substituting their currency in 2002.
5. **Others:** Apart from the models discussed above there do different countries follow some more practices. They are:
   a) **Currency Board Arrangements:** A monetary regime based on an implicit legislative commitment to exchange domestic currency for a specified foreign currency at a fixed exchange rate, combined with restrictions on the issuing authority to ensure the fulfillment of its legal obligation.
   b) **Dollarization:** Several countries that have suffered for many years from currency devaluation, primarily as a result of inflation, have taken steps towards dollarization, the use of the U.S. dollar as the official currency of the country.

1.5.3 Fixed versus Flexible Exchange Rates

A nation's choice as to which currency regime it follows reflects national priorities about all facets of the macro economy, including inflation, unemployment, interest rate levels, trade balances, and economic growth. The choice between fixed and flexible rates may then change as priorities change. At the risk of overgeneralization, the following observations explain why countries pursue certain exchange rate regimes. They are based on the premise that, other things being equal, countries would prefer fixed exchange rates.

1. Fixed rates provide stability in international prices for the conduct of trade. Stable prices aid in the growth of international trade and lessen risks for all businesses.

2. Fixed exchange rates are inherently anti-inflationary, requiring the country to follow restrictive monetary and fiscal policies. This restrictiveness, however, can often be a burden to a country wishing to pursue policies that alleviate continuing internal economic problems, such as high unemployment or slow economic growth.
3. Fixed exchange rate regimes necessitate that central banks maintain large quantities of international reserves (hard currencies and gold) to be used in the occasional defense of their fixed rate. As the international currency Management have grown rapidly in size and volume, this need has become a significant burden to many nations.
4. Fixed rates, once in place, may be maintained at rates that are inconsistent with economic fundamentals. As the structure of a nation's economy changes, and as trade relationships and balances evolve, the exchange rate itself should change. Flexible exchange rates allow this change to happen gradually and efficiently, but fixed rates must be changed administratively-usually too late, with too much publicity, and at too great a one-time cost to the nation's economic health.

Global Scenario of Exchange Rate Arrangements

Firms engaged in international business must have an idea bout the exchange rate arrangement prevailing in different countries as this will facilitate their financial decisions. In this context, it can be said that over a couple of decades, the choice of the member countries has been found shifting from one form of exchange rate arrangement to the other, but, on the whole, preference for the floating rate regime is quite evident. At present as many as 35 of a total of 187 countries have an independent float, while the other 51 countries have managed floating system. The other 7 countries have a crawling peg, while 53 countries have pegs of different kinds. The EMU and other 20 countries of Africa and the Caribbean region come under some kind of economic and monetary integration scheme in which they have a common currency. Lastly, nine countries do not have their own currency as legal tender.

The recent developments in the field of international monetary environment are worth mentioning. They are launch of Euro as the single currency for 11 of European countries and the currency crises in emerging Management. They are briefly mentioned below:

a) **The Launch of Euro:** On January 1, 1999, 11 member states of the EU initiated the European Monetary Union. They established a single currency, the Euro, which replaced the individual currencies of the participating member states. On December 31, 1998, the final fixed rates between the 11 participating currencies and the Euro were put into place. On January 4, 1999, the Euro was officially traded. The 15 members of the European Union are also members of the European Monetary

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System. According to the EU, EMU is a single currency area, now known informally as the Euro Zone, within the EU single market in which people, goods, services and capital move without restrictions. In December 1991, the members of the European Union met at Maastricht, the Netherlands and concluded a treaty that changed Europe's currency future. The Maastricht Treaty specified a timetable and a plan to replace all individual currencies with a single currency, now called the Euro. Other steps were adopted that would lead to a full European Economic and Monetary Union. The growth of global Management and the increasing competitiveness of the Americas and Asia drove the members of the EU in the 1980s and 1990s to take actions that would allow their residents and their firms to compete globally. The reduction of barriers across all members countries to allow economies of scale (size and cost per unit) and scope (horizontal and vertical integration) was thought to be Europe's only hope of not being left behind in the new millennium. The successful implementation of a single, strong, and dependable currency for the conduct of life could well alter the traditional dominance of the U.S. dollar as the world's currency.

b) **Emerging Market Crises:** After a number of years of relative global economic tranquility, the second half of the 1990s was racked by a series of currency crises that shook all emerging Management. The devaluation of the Mexican peso in December 1994 served as a harbinger of crises to come. The Asian crisis of July 1997, the Russian ruble's collapse in August 1998, and more recently the fall of the Brazilian real in January 1999 provide a spectrum of emerging market economic failures, each with its own complex causes and unknown outlooks. These crises also illustrate the growing problem of capital flight and short-run international speculation in currency and securities Management.

- **The Asian crisis of 1997.** The roots of the Asian currency crisis extended from a fundamental change in the economics of the region, the transition of many Asian nations from net exporters to net importers. The most visible roots of the crisis were in the excesses of capital flows into Thailand in 1996 and early 1997. As the investment –bubble expanded, some participants raised questions about the economy's ability to repay the rising debt. The bath came under sudden and severe pressure. The Asian crisis – for it was more than just a currency collapse- had many roots besides the traditional balance-of-payments difficulties. The complex structures combining government , society, and business throughout the Far East provide a backdrop for understanding the tenuous linkage between business, government, and society.

- **The Russian crisis of 1998.** The loss of the relatively stable ruble, once considered the cornerstone and symbol of success of President Boris Yeltsin's regime, was a potential death blow to the current Russian government and economic system. If nothing else, Russian borrowers may find themselves *persona non grata* for years to come in the international capital Management.
- **The Brazilian crisis of 1999.** Potentially the mildest of the three currency collapses, the Brazilian real's fall in January 1999 was the result of a long expected correction in an ill-conceived currency policy. Because so many major Brazilian firms are publicly traded, this crisis serves as an excellent example of how equity Management revalue firms that are exposed to currency devaluations and vice versa.

1.5.4 Attributes of the Ideal Currency

If the ideal currency existed in today's world, it would possess three attributes:

- **Fixed value**. The value of the currency would be fixed in relationship to other major currencies so that trades and investors could be relatively certain of the foreign exchange value of each currency in the present and into the near future.
- **Convertibility**. Complete freedom of monetary flows would be allowed, so that traders and investors could willingly and easily move funds from one country and currency to another in response to perceived economic opportunities or risks.
- **Independent monetary policy.** Domestic monetary and interest rate policies would be set by each individual country so as to pursue desired national economic policies, especially as they might relate to limiting inflation, combating recessions, and fostering prosperity and full employment.

Unfortunately, these three attributes usually cannot be achieved at the same time. For example, countries whose currencies are pegged to each other are in effect agreeing to both a common inflation rate and a common interest rate policy. If inflation rates differ but the peg (i.e., fixed exchange rate) is maintained, one country's goods become cheaper in the other countries. This will lead to unemployment in the high-inflation country. If one country's interest rates are higher than the others and the peg is maintained, investors will move funds from the low-rate country to the high-rate country, creating ever more difficulty in maintaining the peg.

Essentials of a Sound Currency System

Broadly speaking, a sound currency system must fulfil the following conditions:

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(i) It must maintain a reasonable stability of prices in the country. This means that its internal value (or purchasing power in terms of goods and services in the country concerned) must not fluctuate too violently. This involves regulation of the amount of money in circulation to suit the requirements of trade and industry in the country.

(ii) A sound currency system must maintain stability of the external value of the currency. This means that its purchasing power over goods and services in foreign countries, through its command over a definite amount of foreign currency, should remain constant.

(iii) The system must be economical. A costly medium of exchange is a national waste. It is unnecessary. That is why all countries use mostly paper money.

(iv) The currency must be elastic and automatic so that it expands or contracts in response to the requirements of trade and industry.

(v) The currency system must be simple so that an average man can understand it. A complicated system cannot inspire public confidence.

1.6 SUMMARY

The international monetary system can be defined as the structure within which foreign exchange rates are determined, international trade and capital flows are accommodated, and balance of payments adjustments made. It also includes all the instruments, and agreements that link together the world's currency, money Management, securities, real estate, and commodity Management. The international monetary system has evolved historically from the gold standard (1876-1913) of fixed exchange rates, to the interwar years and World War II (1914-1944) with floating exchange rates, to fixed exchange rates (1945-1973) under the Bretton Woods Agreement, to the present eclectic currency arrangement (1973-present) of fixed, floating, and managed exchange rates.

The key monetary institution is the International Monetary Fund (IMF). It was first proposed in 1944 at Bretton Woods, New Hampshire, with the purpose of being a lender of last resort to countries facing temporary balance of payments difficulties. Contemporary currency regimes vary from rigidly fixed rates to managed floating to independently floating exchange rates. Several countries, such as Argentina and Hong Kong, utilize currency boards as a means of fixing their exchange rates. Another alternative being considered is dollarization, which entails the use of the U.S. dollar as the main domestic currency. The argument over the appropriateness of fixed rates versus flexible rates continues, as shown by the variety of currency regimes in use across the globe. Eleven of the 15 member countries of the European

Union successfully launched a single currency effective January 1, 1999. Called the Euro, this single currency will replace the 11 national currencies of the participant countries completely by mid-2002. The European Central Bank in

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Frankfurt, Germany conducts monetary policy for the 11 member countries of the EMU. The devaluation of the Mexican peso in 1994 and the subsequent tequila effect was a harbinger of crises to come. The second half of the 1990s was racked by a series of currency crises that shook all emerging Management. Three recent crises – the Asian crisis (starting in Thailand in July 1997), the Russian crisis (August 1998), and the Brazilian crisis (January 1999) - demonstrate the critical roles of currencies in the global economy.

1.7 KEY WORDS

- **Gold Standard:** A system of setting currency values whereby the participating countries commit to fix the prices of their domestic currencies in terms of a specified amount of gold.
- **Bretton Woods Agreement:** The Bretton Woods Agreement, implemented in 1946, whereby each member government pledged to maintain a fixed, or pegged, exchange rate for its currency vis-à-vis the dollar or gold. These fixed exchange rates were supposed to reduce the riskiness of international transactions, thus promoting growth in world trade.
- **Free Float:** An exchange rate system characterized by the absence of government intervention. Also known as a clean float.
- **Special Drawing Rights (SDRs):** A new form of international reserve assets, created by the IMF in 1967, whose value is based on a portfolio of widely used currencies.
- **Hot Money:** Money which moves internationally from one currency and / or country to another in response to interest rate differences, and moves away immediately when the interest advantage disappears.

1.8 SELF ASSESSMENT QUESTIONS AND EXERCISES

1. Define international monetary system. Briefly explain different forms of exchange rate systems.
2. What is Gold Standard? Explain the advantages and disadvantages of gold standard.
3. List out the causes of break-down of the gold standard.
4. What is Bretton Wood's agreement? Explain the significance of this agreement in international monetary environment in the post war period.
5. What are the main differences of fixed and flexible exchange rates? Describe briefly the contemporary currency regimes.

6. What is meant by Special Drawing Rights (SDRs)? Explain their significance in international monetary environment.
7. What are the essentials of sound currency system?

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Lesson 2: Determinants of Exchange Rates

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Objectives

After studying this lesson you should be able

- To know the important determinants of exchange rates.
- To understand economic theories that explain long-run exchange rate determinants
- To understand the impact of balance of payments on exchange rate
- To know the effect of price changes, interest rates on foreign exchange rates
- To study different approaches to exchange rate forecasting

Structure

1.1 INTRODUCTION

On the most fundamental level, exchange rates are market-clearing prices that equilibrate supplies and demands in foreign exchange Management. Obviously, it is the supply of, and the demand for, foreign currency that would determine at any time the rate of exchange of a country's currency just as the market price of commodities is determined by the forces of demand and supply. Managers of multi national enterprises, international portfolio investors, importers and exporters, and government officials are very much interested in knowing the determinants of exchange rates. An important question to be answered is whether change in exchange rates predictable?

Unfortunately, there is no general theory of exchange rate determination. Instead, there are economic theories called parity conditions that attempt to explain long-run exchange rate determinants. Numerous other variables appear to explain short and medium-run exchange rate determinants. A major problem is that the

same set of determinants does not explain rates for all countries at all times, or even for the same country at all times.

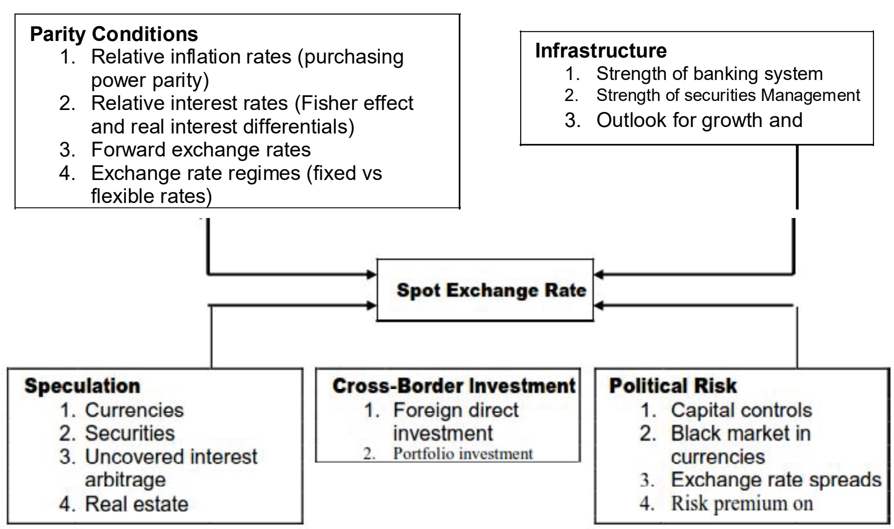
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1.2 POTENTIAL EXCHANGE RATE DETERMINANTS

Potential foreign exchange rate determinants can be categorized into clusters that are also influenced by exchange rates. They are: 1) parity conditions; 2) infrastructure; 3) speculation; 4) cross-border investment; and 5) political risk. Exhibit 1 provides a road map to identify the potentially most important determinants that have surfaced in recent years. It is observed that most determinants of the spot exchange rate are also in turn affected by changes in the spot rate. In other words, they are not only linked but also mutually determined.

Parity conditions are an explanation in classical economics for the long-rung value of exchange rates. These conditions will be described in detail in next sections. Infrastructure weaknesses were among the big cause for the recent collapse of exchange rates in he emerging Management. On the other hand, infrastructure strengths helped explain why the US dollar continues to be strong despite record balance-of-payments deficit on current account.

***Exhibit 1**: Potential Foreign Exchange Rate Determinants*



Source: Adapted from text book Multinational Business Finance', by David K.Eiteman, Arthur I.Stonehill, Michael H Moffett, Pearson Education

Speculation contributed greatly to the emerging market crises. Some characteristics of speculation were hot money flows into and out of currencies, securities, real estate, and commodities. Cross border foreign direct investment and international portfolio investment into the emerging Management are on the rise in recent times.

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Political risks have been much reduced in recent years, as capital Management became less segmented from each other and more liquid. Cash flows motivated by any and all of the potential exchange rate determinants eventually show up in the balance of payments (BOP). The BOP provides a means to account for these cash flows in a standardized and systematic manner. The BOP increases the transparency of the whole international monetary environment and enables decision-makers to make more rational policy choices.

1.3 BALANCE OF PAYMENTS APPROACH

The International Monetary Fund defines the BOP as a statistical statement that systematically summarizes, for a specific time period, the economic transactions of an economy with the rest of the world. BOP data measures economic transactions include exports and imports of goods and services, income flows, capital flows, and gifts and similar –one-sided transfer payments. The net of all these transactions is matched by a change in the country's international monetary reserves.

The significance of a deficit or surplus in the BOP has changed since the advent of floating exchange rates. Traditionally, BOP measures were used as evidence of pressure on a country's foreign exchange rate. This pressure led to governmental transactions that were compensatory in nature, forced on he government by its need to settle the deficit or face a devaluation.

Exchange Rate Impacts

The relationship between the BOP and exchange rates can be illustrated by use of a simplified equation that summarizes BOP data:

BOP = (X-M) + (CI-CO) + (FI-FO) +FXB

Where: X is exports of goods and services,

M is imports of goods and services,

(X-M) is known as Current Account Balance

CI is capital outflows,

CO is capital outflows,

(CI-CO) is known as Capital Account Balance

FI is financial inflows,

FO is financial outflows,

(FI-FO) is known as Financial Account Balance

FXB is official monetary reserves such as foreign exchange and gold

The effect of an imbalance in the BOP of a country works somewhat differently depending on whether that country has fixed exchange rates, floating exchange rates, or a managed exchange rate system.

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a) **Fixed Exchange Rate Countries.** Under a fixed exchange rate system, the government bears the responsibility to ensure a BOP near zero. If the sum of the current and capital accounts does not approximate zero, the government is expected to intervence in the foreign exchange market by buying or selling official foreign exchange reserves. If the sum of the first two accounts is greater than zero, a surplus demand for the domestic currency exists in the world. To preserve the fixed exchange rate, the government must then intervence in the foreign exchange market and sell domestic currency for foreign currencies or gold so as to bring the BOP back near zero. It the sum of the current and capital accounts is negative, an exchange supply of the domestic currency exists in world Management. Then the government must intervene by buying the domestic currency with its reserves of foreign currencies and gold. It is obviously important for a government to maintain significant foreign exchange reserve balances to allow it to intervene effectively. If the country runs out of foreign exchange reserves, it will be unable to buy back its domestic currency and will be forced to devalue. For fixed exchange rate countries, then, business managers use balance-of-payments statistics to help forecast devaluation or revaluation of the official exchange rate. Normally a change in fixed exchange rates is technically called –devaluation or –revaluation, while a change in floating exchange rates is called either –depreciation or –appreciation .

b) **Floating Exchange Rate Countries.** Under a floating exchange rate system, the government of a county has no responsibility to peg the foreign exchange rate. The fact that the current and capital account balances do not sum to zero will automatically (in theory) alter the exchange rate in the direction necessary to obtain a BOP near zero. For example, a country running a sizable current account deficit with the capital and financial accounts balance of zero will have a net BOP deficit. An excess supply of the domestic currency will appear on world Management. As is the case with all goods in excess supply, the market will rid itself of the imbalance by lowering the price. Thus, the domestic currency will fall in value, and the BOP will move back toward zero. Exchange rate Management do not always follow this theory, particularly in the short-to-intermediate term.

c) **Managed Floats.** Although still relying on market conditions for day-to-day exchange rate determination, countries operating with managed floats often find it necessary to take actions to maintain their desired exchange rate values. They therefore seek to alter the market's valuation of a specific exchange rate by influencing the motivations of market activity, rather than through direct intervention in the foreign exchange Management.

The primary action taken by such governments is to change relative interest rates, thus influencing the economic fundamentals of exchange rate determination. A change in domestic interest rates is an attempt to alter

capital account balance, especially the short-term portfolio component of these capital flows, in order to restore an imbalance caused by the deficit in current account. The power of interest rate changes on international capital and exchange rate movements can be substantial. A country with a managed float that wishes to defend its currency may choose to raise domestic interest rates to attract additional capital from abroad. This will alter market forces and create additional market demand for domestic currency. In this process, the government signals exchange market participants that it intends to take measures to preserve the currency's value within certain ranges. The process also raises the cost of local borrowing for businesses, however, and so the policy is seldom without domestic critics. For managed-float countries, business managers use BOP trends to help forecast changes in the government policies on domestic interest rates.

1.4 PARITY CONDITIONS

There are many potential exchange rate determinants. Economists have traditionally isolated several of these determinants and theorized how they are linked with one another and with spot and forward exchange rates. These linkages are called parity conditions. They are useful in explaining and forecasting the long-run trend in an exchange rate.

1.4.1 Prices and Exchange Rates

If the identical product or service can be sold in two different Management, and no restrictions exist on the sale or transportation costs of moving the product between Management, the product's price should be the same in both Management. This is called the **law of one price**. A primary principle of competitive Management is that prices will equalize across Management if frictions or costs of moving the products or services between Management do not exist. If the two Management are in two different countries, the product's price may be stated in different currency terms, but the price of the product should still be the same. Comparison of prices would only require a conversion from one currency to the other.

1.4.2 Purchasing Power Parity and the Law of One Price

If the law of one price were true for all goods and services, the purchasing power parity exchange rate could be found from any individual set of prices. By comparing the prices of identical products denominated in different currencies, we could determine the –real or

PPP exchange rate which should exist if Management were efficient. The hamburger standard, as it has been christened by The Economist, is a prime example of this law of one price. Assuming that the Big Mac, food item sold by McDonalds is indeed identical in all countries, it serves as one means of identifying whether

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currencies are currently trading at market rates that are close to the exchange rate implied by Big Macs in local currencies. A less extreme form of this principle would say that, in relatively efficient Management, the price of a basket of goods would be the same in each market. This is the absolute version of the theory of purchasing power parity. Absolute PPP state that the spot exchange rate is determined by the relative prices of similar baskets of goods.

1.4.3 Relative Purchasing Power Parity

If the assumptions of the absolute version of PPP theory are relaxed a bit more, we observe what is termed relative purchasing power parity. This more general idea is that PPP is not particularly helpful in determining what the spot rate is today, but that the relative change in prices between two countries over a period of time determines the change in the exchange rate over that period. More specifically, if the spot exchange rate between two countries starts in equilibrium, any change in the differential rate of inflation between them tends to be offset over the long run by an equal but opposite change in the spot exchange rate.

1.4.4 Exchange Rate Indices: Real and Nominal

Any single country in the current global market trades with numerous partners. This requires tracking and evaluating its individual currency value against all other currency values in order to determine relative purchasing power, that is, whether it is –overvalued or –undervalued in terms of PPP. One of the primary methods of dealing with this problem is the calculation of exchange rate indices. These indices are formed by trade-weighting the bilateral exchange rates between the home country and its trading partners. The nominal effective exchange rate index calculates, on a weighted average basis, the value of the subject currency at different points in time. It does not really indicate anything about the –true value of the currency, or anything related to PPP. The nominal index simply calculates how the currency value relates to some arbitrarily chosen base period. The real effective exchange rate index indicates how the weighted average purchasing power of the currency has changed relative to some arbitrarily selected base period.

1.5 INTEREST RATES AND EXCHANGE RATES

In this section we see how interest rates are linked to exchange rates.

1.5.1 The Fisher Effect

The Fisher effect, named after economist Irving Fisher, states that nominal interest rates in each country are equal to the required real rate of return plus compensation for expected inflation.

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1.5.2 The International Fisher Effect

The relationship between the percentage change in the spot exchange rate over time and the differential between comparable interest rates in different national capital Management is known as the international Fisher effect. Fisher-open as it is often termed, states that the spot exchange rate should change in an amount equal to but in the opposite direction of the difference in interest rates between two countries. Empirical tests lend some support to the relationship postulated by the international Fisher effect, although considerable sort-run deviations occur. However, a more serious criticism has been posed by recent studies that suggest the existence of a foreign exchange risk premium for major currencies. Also, speculation in uncovered interest arbitrage, such as –carry trade , creates distortions in currency Management.

Thus the expected change in exchange rates might be consistently more than the difference in interest rates.

1.5.3 Interest Rate Parity

The theory of interest rate parity (IRP) provides the linkages between the foreign exchange Management and the international money Management. The theory states that the difference in the national interest rates for securities of similar risk and maturity should be equal to, but opposite in sign to, the forward rate discount or premium for the foreign currency, except for transaction costs.

1.5.4 Covered Interest Arbitrage

The spot and forward exchange Management are not, however, constantly in the state of equilibrium described by interest rate parity. When the market is not in equilibrium, the potential for –riskless or arbitrage profit exists. The arbitrager who recognizes such an imbalance will move to take advantage of the disequilibrium by investing in whichever currency offers the higher return on a covered basis. This is called covered interest arbitrage (CIA).

1.5.5 Forward Rate as an Unbiased Predictor of the Future Spot Rate

Some forecasters believe that for the major floating currencies, foreign exchange Management are –efficient and forward exchange rates are unbiased predictors of future spot exchange rates. Intuitively this means that the distribution of possible actual spot rates in the future is centered on the forward rate. The forward exchange rate's being an unbiased predictor does not, however, mean that the future spot rate will actually be equal to what the forward rate predicts. Unbiased prediction simply means that the forward rate will, on average, overestimate and underestimate the actual future spot rate in equal frequency and degree. The forward rate may, in fact, never actually equal the future spot rate.

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1.6 THE ASSET MARKET APPROACH

Along with the BOP approach to long-term foreign exchange rate determination, there is an alternative approach to exchange rate forecasting called the asset market approach. The asset approach to forecasting suggests that whether foreigners are willing to hold claims in monetary form depends partly on relative real interest rates and partly on a country's outlook for economic growth and profitability. For example, during the period 1981-1985 the US dollar strengthened despite growing current account deficits. This strength was due partly to relatively high real interest rates in the US. Another factor, however, was the heavy inflow of foreign capital into the US stock market and real estate, motivated by good long-run prospects for growth and profitability in the US.

1.7 TECHNICAL ANALYSIS

Technical analysts traditionally referred to as chartists focus on price and volume data to determine past trends that are expected to continue into the future. The single most important element of time series analysis is that future exchange rates are based on the current exchange rate. Exchange rate movements, like equity price movements, can be subdivided into periods: (I) day-to-day movement that is seemingly random; (2) short-term movements extending from several days to trends lasting several months; (3) long-term movements, which are characterized by up and down long-term trends.

The longer the time horizon of the forecast, the more inaccurate the forecast is likely to be. Whereas forecasting for the long-run must depend on economic fundamentals of exchange rate determination, many of the forecast needs of the firm are short-to medium-term in their time horizon and can be addressed with less theoretical approaches. Time series techniques infer no theory or causality but simply predict future values from the recent past. Forecasters freely mix fundamental and technical analysis, presumably because in forecasting, getting close is all that counts. Exhibit 2 summarizes the various forecasting periods, regimes, and the preferred methodologies.

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***Exhibit 2**: Exchange Rate Forecasting in Practice*

Forecast Period	Regime	Recommended Forecast Methods
SHORT-RUN	Fixed-Rate	1. Assume the fixed rate is maintained 2. Indications of stress on fixed rate? 3. Capital controls; black market rates 4. Indicators of government's capability to maintain fixed rate? 5. Changes in official foreign currency reserves
	Floating-Rate	1. Technical methods that capture trend 2. Forward rates as forecasts a. <30 days, assume a random walk b. 30-90 days, forward rates c. 90-360 days, combine trend with fundamental analysis 3. Fundamental analysis of inflationary concerns 4. Government declarations and agreements regarding exchange rate goals 5. Cooperative agreements with other countries
LONG-RUN	Fixed-Rate	1. Fundamental analysis 2. BOP management 3. Ability to control domestic inflation 4. Ability to generate hard currency reserves to use for intervention 5. Ability to run trade surpluses
	Floating-Rate	1. Focus on inflationary fundamentals and PPP 2. Indicators of general economic health such as economic growth and stability 3. Technical analysis of long-term trends; new research indicates possibility of long-term technical ―waves‖

1.8 SUMMARY

Exchange rate in a floating rate system is determined by the demand and supply forces. The higher the demand or lower the supply, the greater the value of the currency in the spot foreign exchange market. There are different theories explaining the exchange rate behaviour. While the balance of payments theory stresses on the current account and the capital account behaviour influencing the exchange rate, the monetary theories emphasise on the demand and supply of money being the main force behind exchange rate behaviour. Some forecasters believe that for the major floating currencies, foreign exchange Management are ―efficient and forward exchange rates are unbiased predictors of future spot exchange rates. The asset approach to forecasting suggests that whether foreigners are willing to hold claims in monetary form depends partly on relative real interest rates and partly on a country's outlook for economic growth and profitability. The factors influencing the exchange rate are primarily the inflation rate and interest rate

differentials. In the forward market it is the Interest Rate Parity theory that explains exchange rate determination.

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1.9 KEY WORDS

- **Balance of Payments:** A financial statement summarizing the flow of goods, services, and investment funds between residents of a given country and residents of the rest of the world.
- **Capital account:** A section of the balance of payments accounts. Under the revised format of the IMF, the capital account measures capital transfers and the acquisition and disposal of non-produced and non-financial assets.
- **Covering:** A transaction in the forward foreign exchange market or money market which protects the value of future cash flows.
- **Current account:** In the balance of payments, the net flow of goods, services, and unilateral transfers such as gifts between a country and all foreign countries. **Devaluation:** A drop in the spot foreign exchange value of a currency that is pegged to other currencies or to gold.
- **Flexible exchange rates:** The opposite of fixed exchange rate is adjusted periodically by the country's monetary authorities in accordance with their judgement and/or an external set of economic indicators.
- **Floating Exchange rates:** Foreign exchange rates determined by demand and supply in an open market that is presumably free of government interference. **Revaluation:** A rise in the foreign exchange value of a currency that is pegged to other currencies or gold. Also called –appreciation .

1.10 SELF ASSESSMENT QUESTIONS AND EXERCISES

1. What are the important foreign exchange rate determinants? Describe briefly each of them.
2. Define balance of payment (BOP). What is its significance in foreign exchange rate determination?
3. What are parity conditions? Explain the linkages of prices, interest rates, and exchange rates in equilibrium.
4. Describe Purchasing Power Parity and the Law of One Price.
5. Explain briefly: (a) Interest Rate Parity (b) Covered Interest Arbitrage (c)

1.11 FURTHER READINGS

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Lesson 3: Exchange Controls.

Objectives

After studying this lesson you should be able

- To understand why countries impose exchange controls
- To know types of currency control measures followed by various countries
- To study the impact of exchange controls on economic environment

Structure

1.1 INTRODUCTION

Exchange controls, like currency devaluations, form a part of expenditure-switching policy package. Because, they, too, like devaluation, aim at directing domestic spending away from foreign supplies and investment. Exchange controls try to divert domestic spending into consumption of domestically produced goods and services on the one hand and into domestic investment on the other.

Exchange controls represent the most drastic means of BOP adjustment. A full-fledged system of exchange controls establishes a complete government control over the foreign exchange market of the country. Foreign exchange earned from exports and other sources must be surrendered to the government authorities. The available supply of foreign exchange is then allocated among the various buyers (importers) according to the criterion of national needs and established priorities. From a purely BOP standpoint, the sole purpose of exchange controls, is to ration out the available supply of foreign exchange in accordance with national interests.

There are also a variety of milder forms of exchange control which merely limit certain sources of demand for foreign exchange; there by they try to minimize their pressure on the BOP deficit. For example, a country may restrict foreign tourism or foreign study by the nationals of the country, in order to save foreign exchange. Similarly, domestic residents may restrict some of the capital transfers abroad, again to conserve scarce foreign exchange. Partial exchange controls such as these may be scrapped if a more basic improvement in the foreign exchange earnings has occurred. India at present gained confidence with bulging forex reserves ($165 billion – November 2006) lifted several controls in recent times.

The following section lists the most frequently used currency control measures. These controls are a major source of market imperfection, providing opportunities as well as risks for multinational corporations.

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1.1.1 Typical Currency Control Measures

- Restriction or prohibition of certain remittance categories such as dividends or royalties.
- Ceilings on direct foreign investment outflows
- Controls on overseas portfolio investments
- Import restrictions
- Required surrender of hard-currency export receipts to central bank
- Limitations on prepayments for imports
- Requirements to deposit in interest-free accounts with central bank, for a specified time, some percentages of the value of imports and/or remittances
- Foreign borrowings restricted to a minimum or maximum maturity
- Ceilings on granting of credit to foreign firms
- Imposition of taxes and limitations on foreign-owned bank deposits
- Multiple exchange rates for buying and selling foreign currencies, depending on category of goods or services each transaction falls into

1.1.2 Objectives of Exchange Control

The object of controlling exchange is to fix it at a level different from what it would be if the economic forces were permitted free interplay. The objectives of exchange control may be:-

(a) To correct a serious imbalance in the economy of the country relatively to the outside world; or
(b) To conserve the country's gold reserves which are being depleted; or
(c) to correct a persistently adverse balance of payments; or
(d) to prevent a flight of capital from the country; or
(e) to conserve foreign exchange reserves for large payments abroad; or
(f) to maintain stable exchange rate, or
(g) to ensure growth with stability, and so on.

In all these circumstances, a free exchange would be either embarrassing or prejudicial to the object in view, and exchange control becomes an imperative necessity.

1.2 POSSIBLE COURSES OF EXCHANGE CONTROL

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There are three possible courses that a country adopting exchange control may like to pursue, considering the economic situation in which it may find itself;

(1) It may like to under-value or depreciate currency; or

(2) it may decide on over-valuation; or

(3) it may decide to avoid fluctuations and maintain a stable rate.

Let us consider when and with what consequences each of these courses may be adopted.

1.2.1 Under-Valuation

Under valuation is advocated for curing depression. When a country decides on under-valuation or depreciation, i.e., fixing a rate lower than it would be in a free exchange market, exports are stimulated and imports are discouraged. It will give stimulus to export industries and domestic industries will also benefit because imports have been discouraged. Thus, under-valuation will increase economic activity in the country, add to the total output (GNP) and will create more employment.

But this object may not be fulfilled. Instead of internal prices rising, the external prices may fall. This would happen in the case of a big country like India and the U.S.A. Also, since prices are affected through exports and imports, the desired objective of modifying the price level is more likely to be achieved when foreign trade is extensive than when it forms only a small proportion of the aggregate trade of the country. The policy of under-valuation is more suitable for a country, whose exports consist of foodstuffs and raw materials, for during depression, prices of these goods are depressed to a greater extent. Since, however, under-valuation will make the imports dear, the purchasing power of the producers of raw materials and foodstuffs will be reduced. But it is considered more advantageous to prevent a fall in the prices of goods it has to sell than to prevent a rise in those, which it has to buy. During the Great Depression (1929-34), many countries adopted a policy of under-valuation and depreciated their currencies. In fact, there was regular competition in currency depreciation. Every country tried to cure its own depression. The Articles of the IMF now rule out competitive exchange depreciation. If depreciation has to come, it must come in an orderly fashion.

1.2.2 Over-Valuation

The second object of exchange control may be over-valuation or fixing the valuation of its currency at a level higher than it would be if there was no intervention in foreign exchange. This course is indicated in the following situations:

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(i) When there is a serious imbalance in the country's trade relationship. As a consequence, the supply of national currency may far exceed the demand for it.

(ii) The country may be in great need of foreign goods either for prosecution of a war or for reconstruction after the war or for economic development. If exchange rate were permitted to fall in these circumstances, it would make these much needed imports very costly, or almost prohibitive. When a country finds itself under the sudden necessity of making large purchases from abroad, over-valuation is found to be most suitable.

(iii) If a country is suffering from inflation, the exchange value of the national currency will go down when exchanges are left free to move. If foreign trade plays a very important part in the economy of the country, this downward trend must be arrested by overvaluing the domestic currency, otherwise imports will become very dear and the exporters will have windfall profits.

(iv) A policy of over-valuation is also in the interest of a country which has to meet a large debt payments expressed in foreign currency. If the rate of exchange fell, the burden of foreign debt would correspondingly increase.

We cannot lay down dogmatically whether a country should under-value or over value. It all depends on circumstances. Over-valuation may suit certain countries and under-valuation certain others. The same country may find over-valuation more suitable at one stage and under-valuation at another. The rough rule-of-thumb, therefore, is in times of slump and surfeit, under-value your currency.

The third course is neither to under-value nor to over-value but to avoid fluctuations. Even here the object is not to keep exchanges rigidly fixed but simply to avoid sudden and big changes. It is intended only to iron out temporary ups and downs and to keep off the adventitious influences. This was done by Exchange Equalisation Account, which was explained in next section. The IMF is also intended to achieve the same objective.

1.3 METHODS OF EXCHANGE CONTROL

1.3.1 Influencing Exchange Rate

Exchange control is exercised either by regulating international movements of goods through various devices or by the purchase and sale of foreign currency at specified rates in order to maintain a particular range of exchange fluctuations. Exchange control can be exercised by influencing demand for, and supply of, currencies in the exchange market. This can be done indirectly by devices like tariffs, quotas, bounties, changes in interest rates, etc. Imposition of import duties and of import quotas will reduce imports, cut down the demand for foreign currency, lower its value or raise the value of the domestic currency. Export duties, which are not so

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common, will have the opposite effect. Bounties affect the other way about. Export bounty will raise and import bounty (which exists nowhere) will lower the value of the home currency. A rise in the interest rates attracts funds from abroad, increases demand for domestic currency and raises its value, and vice versa.

But these are the ways in which exchange is influenced and not controlled. The effect of such devices can be offset by similar devices adopted by rival nations. These measures are not necessarily adopted for controlling exchange and are not sufficiently strong to bring rates of exchange under effective control. Hence, more direct methods have to be adopted.

1.3.2 Controlling Exchange Rate

There are two methods generally adopted for controlling exchange:

(a) **Intervention.** In this case, the government enters the exchange market either to purchase or to sell foreign exchange in order to bring the rate up or down to the desired level. This method has been called intervention and leads to exchange pegging described in next section.

(b) **Restriction.** In this case, the government can prevent the existing demand for, or supply of, the country, in which they are interested, from reaching the exchange market. This method has been called restriction. The second method has been more popular because intervention proved a weak weapon and was also expensive.

1.3.3. Exchange Control Proper

Exchange restriction is exchange control proper. For this three things are done: (a) all foreign dealings are centralised, usually in the central bank; (b) the national currency cannot be offered for exchange without previous permission, and (c) it is made a criminal offence to enter into an unauthorised foreign exchange transaction.

The usual procedure is to order all exporters to surrender claims on foreign currency to the central bank and ratio the foreign exchange made so available among the licensed importers. Exchange, control thus involves import control. Up to 1939, Germany was a pioneer in the method of exchange control although exchange control was adopted in several other European countries also during the Great Depression (1929-33).

1.4 FORMS OF EXCHANGE CONTROL

The various forms that exchange control has taken are briefly discussed below:

1.4.1 Exchange Pegging

This device is usually adopted during war in order to minimize exchange fluctuations. The internal value of a currency may depreciate due to inflation but the government may seek to keep its external value at a higher level than warranted by the purchasing power parity in order to facilitate international transactions.

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England during First World War and again in the Second World War adopted the method. Between 1916 and 1919, the Sterling was kept artificially pegged at 4.765 dollars – a value which was higher than the real value of the Sterling. This was done by raising loans in America and through these funds, purchasing exchange in London at the above rate. Success in exchange pegging evidently depends on the resources at the command of the nation. Exchange pegging can iron out more or less sporadic and adventitious fluctuations and cannot avoid fundamental changes in the equilibrium rates of exchange.

1.4.2 Exchange Equalisation Account

Exchange funds were the outgrowth of the transformation of the international gold standard convention into an international gold settlement system under which gold came to be used as a balancing item in international trade.

After the suspension of the gold standard in 1931 by England, there again arose the necessity of preventing violent exchange fluctuations. For this purpose, the device of the Exchange Equalisation Account (or Exchange Stabilisation Fund) was utilised. An Exchange Stabilisation Fund is a collection of assets segregated under a central control for the purpose of intervention in the exchange market to prevent undesirable fluctuations in exchange rate. Foreign currency was purchased or sold, as the necessity arose, with the help of this fund, and thus exchange was kept within a narrow range in the face of uncertain movements of short-term funds into and out of England. The Fund is not used to prevent long-term adjustments in the value of the currency concerned.

The purposes for which Exchange Stabilisation Funds have been used have differed in different countries and in the same country at different stages. The aim of the British Exchange Equalisation Account was that the Account was designed, without resisting general trends, to iron out undue fluctuations in the exchanges caused by erratic movements of capital and the disturbing activities of the speculators. Gradually, the object of the fund was extended, and it was used to combat seasonal exchange fluctuations. The major purpose of other Exchange funds was to establish and define appropriate exchange levels, i.e., to resist general trends in the exchange rates.

In a general way, we can say that the main purposes of such Funds are: (I) to iron out short-term fluctuations in the rates of exchange, and (ii) to safeguard against the disturbing influences arising out of the movements of short-term funds and of speculative activities.

Continually, fluctuating exchanges seriously hamper trade. The Fund is, therefore, meant to facilitate the smooth course of foreign trade. By similar devices the dollar-sterling rate was maintained at £ 1 = 4.03 dollars during World War II.

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1.4.3 Other Exchange Control Devices

Strictly speaking, the term exchange control is applied to several devices most of which were first introduced in Germany during the Nazi regime. Later, other countries also adopted some of them. Such devices are: (a) Clearing Agreements. (b) Standstill Agreements, (c) Transfer Moratoria, and (d) Blocked Accounts.

(a) Clearing Agreements: Under a clearing agreement between two countries, importers in both countries pay into an account at their respective central banks the purchase price of the goods imported. This money is then used to pay off exporters. The rate between the currencies is usually fixed by the terms of agreement. The object is to regulate imports according to the wishes of the government, to ensure equilibrium in the balance of payments and to prevent uncertainties of fluctuating exchanges. The system tends to encourage bilateral trade at the expense of multilateral trade and thus has a restrictive effect on international trade. On the other hand, it discourages dumping and currency depreciation. On the whole, the system stands condemned except under special circumstances of a war or as a temporary measure to tide over a period of disequilibrium in a country's balance of payments until the basic causes of such a disequilibrium have been removed.

(b) Standstill agreement: A standstill agreement is a device to prevent the movement of capital through a moratorium on outstanding short-term foreign debts of a country and to give her time to put her house in order. Either the short-term debt is converted into long-term debt or provision is made for its gradual repayment. This device was used in Germany after the crisis of 1931.

(c) Transfer moratoria: It is another device of the same kind. Under this system, importers or others pay their foreign debts in their domestic currency to a specified authority. When the moratorium is concluded these funds are remitted abroad. A foreign creditor is sometimes allowed to use his funds in the country imposing the moratorium in a way specified by the government.

(d) Blocked accounts: This spring from the previously considered two devices of standstill agreement and transfer moratoria. When foreign debts paid in domestic currency to the central bank cannot be remitted abroad without the permission of the government, blocked accounts are said to arise. Since idle funds in the country lead to contraction of credit, the foreign creditors are not altogether prevented from using them. But they have to be used in manner prescribed by the government. Usually, they are allowed to be sold in the open market. In most cases, they are sold at a heavy discount.

1.5 SUMMARY

Many governments attempt to achieve a balance-of-payments equilibrium by imposing exchange controls. Exchange controls have become a way of life in most developing countries. Nations with overvalued currencies ration foreign exchange, while countries facing revaluation, may restrict capital inflows. In effect, government controls supersede the allocative function of the foreign exchange market. The most drastic situation is when all foreign exchange earnings must be surrendered to the central bank, which, in turn, apportions these funds to users on the basis of government priorities. The buying and selling rates need not be equal, nor need they be uniform across all transaction categories. The exchange controls are a major source of market imperfection, providing opportunities as well as risks for multinational corporations.

1.6 KEY WORDS

- **Capital flight:** Movement of funds of a country because of political risk.
- **Capital mobility:** The degree to which private capital moves freely from country to country seeking the most promising investment opportunities.
- **Contagion:** A form of financial panic, in which the devaluation of exchange rates by one country leads to similar devaluations at about the same time by other, often nearby, countries.
- **Freely floating exchange rates:** Exchange rates determined in a free market without government interference.
- **IMF:** International Monetary Fund (IMF) is an international organization created in 1944 to promote exchange rate stability and provide temporary financing for countries experiencing balance of payments difficulties.

1.7 SELF ASSESSMENT QUESTIONS AND EXERCISES

1. What do you understand by exchange control? Discuss its objectives.
2. What are the typical currency control measures normally adopted by different countries?
3. What are the different methods of exchange control?
4. Describe briefly: (a) Exchange Pegging (b) Exchange Equalisation Account

1.8 FURTHER READINGS

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UNIT 3

NOTES

In this unit our aim is to introduce the reader the important transactions associated with Foreign exchange. The Unit is divided into two chapters. In the first chapter we discuss the various facets of foreign exchange transactions. The second chapter discusses the transactions carried out by the important participants in the foreign exchange market viz., the merchant transactions and inter-bank transactions.

CHAPTER 1: FOREIGN EXCHANGE TRANSACTIONS

Introduction

In the globalized economic environment of today, economic activity is globally unified to an unprecedented degree. Thus, changes in one nation's economy are rapidly transmitted to that nation's trading partners. These fluctuations in economic activity are reflected, almost immediately in fluctuations in currency values.

The movements of capital across the countries of the world taking the form of foreign direct investment, by Multinational Corporations involve to a greater extent the transaction in the alien countries currencies.

In the domestic economy financial management is concerned with costs of financing sources and the pay offs from investment. However, in the domestic economy movements of exchange rates are substantially ignored. While one move outside into international arena, there is no way that we can analyze international financing and investment opportunities without an understanding of the impact of foreign exchange rates. Foreign investments aimed at overcoming foreign market regulations, reducing production costs, taking advantage of new market opportunities etc. are by no means new or recent origin. However, certain new trends and dimensions of such investments are discernible. The globalization of business has created new trading environment emerging from economic integration and trade agreements among the countries of the world. Economic liberalization in many countries initiated a proactive role by companies with large cash surpluses to venture into foreign business.

If money is the language of business, foreign exchange is the language of international business. In this respect our aim in this unit is to discuss the various facets foreign exchange transactions.

FOREIGN EXCHANGE — MEANING

When trade takes place between the residents of two countries, the two countries being a sovereign state have their own set of regulations and currency. Due to this problem arises in the conduct of international trade and settlement of the

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transactions .While the exporter would like to get the payment in the currency of his own country, the importer can pay only in the currency of the importers country. This creates a need for the conversion of the currency of importer's into that of the exporter's country. Foreign exchange is the mechanism by which the currency of one country is gets converted into the currency of another country. The conversion is done by banks who deal in foreign exchange.

FOREIGN EXCHANGE RATE

When one currency is converted into another, there must be some basis in effecting the conversion. The basis by which the currency unit of one country gets converted into currency units of another country is known as foreign exchange rate. Foreign exchange rate is therefore the price of one currency in terms of another. The rate of exchange for a currency is known from the quotation in the foreign exchange market.

FOREIGN EXCHANGE MARKET

Unlike commodity market where we see specific locations dealing various commodities, there is no specific locations for foreign exchange market. An American company importing goods from Germany with their price denominated in Deutschmark may buy marks in order to pay for the goods. An American company exporting goods to Germany, again with the price denominated in marks receives Deutschmarks which it may sell in exchange for dollars. The currency aspects of these transactions involve use of the foreign exchange Management. Foreign exchange market exists even in a remote village where the villager approaches a bank of his village to get converted the remittance received from his relative working abroad. To that extent, foreign exchange market exists throughout the world. However, the volumes of transactions in these Management are so few that they are not well recognized as foreign exchange Management. Based on the volume of transactions carried out, we can distinguish foreign exchange Management like London, New York, Tokyo, etc. However, in most of these centers, the foreign exchange market has no central, physical market place. Business is conducted by telephone or telex. The main dealers are commercial banks and central banks.

FACTORS THAT AFFECT THE EQUILIBRIUM EXCHANGE RATE:

Some of the factors that influence currency supply and demand are balance of payments, inflation rates, interest rates economic growth and political and economic risks.

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Balance of Payments

Foreign exchange rate is the price of one currency in terms of another. The balance of payments summarizes the flow of economic transactions between residents of a given country and the residents of other countries during a certain period of time. Balance of payments represents the demand and supply of foreign exchange which ultimately determine the value of the currency. When the balance of payments of a country is continuously deficit, it implies that the demand for the currency of the country is lesser than its supply. Therefore, its value in the market declines. If the balance of payments is surplus continuously, it shows that the demand for the currency in the exchange market is higher than its supply and therefore the currency gains value.

Relative Inflation Rates

Suppose that the supply of dollars increases relative to its demand. This excess growth in the money supply will cause inflation in the US, which means that US. Prices will begin to rise relative to prices of German goods and services, German consumers are likely to buy fewer US. products and begin switching to German substitutes leading to a decrease in the amount of euros supplied at every exchange rate.

Similarly higher prices in the United States will lead American consumers to substitute German imports for U.S. products, resulting in an increase in the demand for euros. In effect both Germans and Americans are searching for the best deals worldwide and will switch their purchases accordingly. Hence a higher rate of inflation in the United States than in Germany will simultaneously increase German exports to the United States and reduce U.S. exports to Germany.

In other words a higher rate of inflation in the United States than in Germany will lead to depreciation of the depreciation of the dollar relative to the euro or, to an appreciation of the euro relative to the dollar. In general, a nation running a relatively high rate of inflation will find its currency declining in value relative to the currencies of countries with lower inflation rates.

Relative Interest rates

Interest rate differentials will also affect the equilibrium exchange rate. A rise in US interest rates relative to German rates all else being equal, will cause investors in both nations to switch from euro to dollar-denominated securities to take advantage of the higher dollar rates. The net result will be depreciation of the euro in the absence of government intervention.

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It should be noted that the interest rates discussed here are real interest rates. The real interest rate equals the nominal or actual interest rate minus the rate of inflation. The distinction between nominal and real interest rates is critical in international finance. If the increase in U.S. rates relative to German rates just reflects higher U.S. inflation, the predicted result will be a weaker dollar.

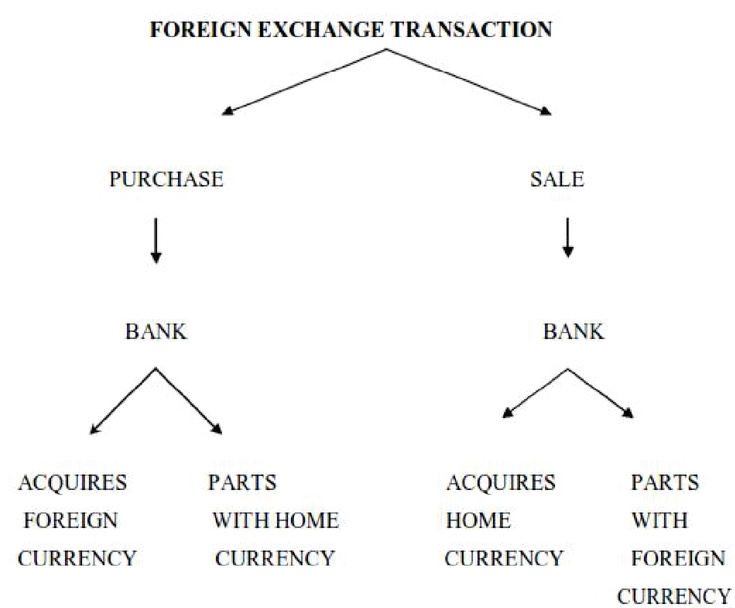
Only an increase in the real U.S. rate relative to the real German rate will result in an appreciating dollar.

FOREIGN EXCHANGE TRANSACTIONS:

Purchase and Sale Transactions

The transaction in foreign exchange market is synonymous with commodity market. While a trader has to purchase goods from his suppliers which he sells to his customers, in a similar way the bank which is authorized to deal in foreign exchange purchases as well as sells its commodity—the foreign currency. Therefore, the foreign currency can be considered as a commodity in foreign exchange dealings.

Whenever we talk about foreign exchange two points need to be kept in mind viz., the transaction is always from the bank's point of view; and the item referred to is the foreign currency. Therefore, when we say a purchase, we imply that the bank has purchased; and it has purchased foreign currency. Similarly, when we say a sale, we imply that the bank has sold; and it has sold foreign currency. In a purchase transaction the bank acquires foreign currency and parts with home currency. In a sale transaction the bank parts with foreign currency and acquires home currency.



EXCHANGE QUATATIONS

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Methods of Quotation

The exchange rate may be quoted in two ways. 1. Direct quotation or home currency quotation and 2.Indirect quotation or foreign currency quotation. For instance, a fruit vendor may express the price of apples in either of the following two ways:

Method I

One apple costs ₹10

Method II

For ₹100, 10 apples

In both the case the value of apple or the rupee is the same though expressed differently .In method I, the price per apple is quoted in rupees. In method II, the unit of rupees kept constant at 100, and the quantity of fruits is varied to reflect their prices.

The same is also true for foreign currency. In foreign exchange also the rate of exchange can be quoted in two ways: Method I

USD 1= ₹43.20 or USD 1=43.30

Method II

₹100 = USD 2.3409 or ₹100 = 2.3200

The quotation under Method I, in which exchange rate is expressed as the price per unit of one US dollar in terms of the home currency is known as Home

Currency Quotation or Direct Quotation. It may be noted that under direct quotation the number of units of foreign currency is kept constant and any change in the US dollar quoted at under different values of rupees.

Under Method II, the unit of home currency is kept constant and the exchange rate is expressed as so many units of foreign currency for a fixed unit of home currency is known as Foreign Currency Quotation or Indirect Quotation. Under indirect quotation, any change in exchange rate will be effected by changing the number of units of foreign currency. For instance, the rate ₹100=USD 2, 3400 may become in due course USD 2.2450 or USD 2.3785, and so on.

The indirect quotation is used in London foreign exchange market. In New York and other foreign exchange Management mostly the direct method is in vogue.

In India, earlier we had used indirect method. However, from August 2, 1993, India has switched over to direct method of quotation. The change has been introduced in order to simplify and establish transparency in exchange rates in India.

TRANSACTIONS UNDER DIRECT AND INDIRECT QUOTATIONS

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Under direct quotation the bank buys the foreign currency at lower price and selling it to a customer at a higher price. For instance a bank may buy US dollar at ₹46 and sell at 46.20 and thus book a profit. Therefore, under direct quotation the maxim is buy low; Sell high.

In the case of indirect quotations, while buying, the bank would acquire more units of foreign currency for a fixed unit of home currency and while selling part with lesser units of foreign currency for more units of home currency. Therefore, the maxim under indirect quotation is buy high and sell low.

TWO WAY QUOTATIONS

The first area of mystique in foreign exchange quotations arises from the fact that there are two ways of quoting rates; the direct quote and the indirect quote that we already discussed. The former gives the quotation in terms of the number of units of home currency necessary to buy one unit of foreign currency. The latter gives the quotation in terms of the number of units of foreign currency bought with one unit of home currency.

Foreign exchange dealers quote two prices, one for selling and the other for buying. Therefore, in the foreign exchange market; quotations are always for both buying and selling. For instance a bank may quote its rate for dollars as follows:

One US dollar=₹46.57- 46.75 or ₹100=USD 2.2432- 2.2768. While in the case of One US dollar=₹46.57- 46.75 the first ₹46.57 is the buying rate, the second 46.75 is the selling rate. On the other hand in the case of ₹100=USD 2.2432-2.2768, the bank agrees to sell at the rate of USD 2.2432 for ₹100, the bank is willing to buy at USD 2.2768 for ₹100. The buying rate is known as the bid rate and the selling rate is known as offer rate.

Continental European dealers normally quote via the direct method. In London dealers use the indirect method. In the US, both quotation methods are used. When a bank is dealing with a customer within the US direct quotation is given but when dealing with other banks in Europe (except the UK) the indirect quotation is used. Foreign exchange dealers quote two prices: the rate at which they are prepared to sell a currency and that at which they are prepared to buy. The difference between the bid rate and the offer is the dealer's spread which is one of the potential sources of profit for dealers. Whether using the direct quotation method or the indirect quote, the smaller rate is always termed the bid rate and the higher is called the offer or ask rate.

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The size of the bid/offer spread varies according to the depth of the market and its stability at any particular time. Depth of a market refers to the volume of transactions in a particular currency. Deep Management have many deals, shallow Management have a few. High percentage spreads are associated with high uncertainty and low volume s of transactions in a currency. Lower spreads are associated with stable, high volume Management. Deep Management usually have narrower spreads than shallow one.

SPOT AND FORWARD TRANSACTIONS

In foreign exchange transactions the transactions are not completed on the same date. The actual exchange of currencies may take place at different time periods For instance let us suppose that there are two banks in the foreign exchange transaction. Bank of India agrees to buy from Bank of Baroda, British pounds one lakh. The actual exchange may take place (1) on the same day or (2) two days later or (3) Some day late say after a month. In case 1.where the agreement to buy and sell is agreed upon and executed on the same date, the transaction is known as cash transaction. It is also known as value today. In case 2, if the settlement takes place, within two days, the rate of exchange effective for the transaction is known as spot rate. In case 3, while the delivery and payment takes place after a month, then the transaction in which the exchange of currencies takes place at a specified future date is known as forward transaction. The forward transaction is an agreement between two parties requiring the delivery of some specified future date of a specified amount of foreign currency by one of the parties against payment in domestic currency by the other party at the price agreed upon in the contract. The rate of exchange applicable to the forward contract is called the forward exchange rate and the market for forward transaction is known as forward market.

Cross Rates

A cross rate may be defined as an exchange rate which is calculated from two (or more) other rates. Thus the rate for the Deutschmark to the Swedish crone will be derived as the cross rate from the US dollar to the Deutschmark and the US dollar to the crone. The practice in world foreign exchange market is that currencies are quoted against the US dollar. If one bank asks another bank for its Deutschmark rate, that rate will be quoted against the US dollar unless otherwise specified. Most dealings are done against the US dollar hence it follows that the market rate for a currency at any moment is most accurately reflected in its exchange rate against the US dollar. A bank that was asked to quote sterling against the Swiss franc would normally do so by calculating this rate from the sterling/dollar rate and the dollar/Swiss franc rate. Thus, the cross rates would be used to determine the quotations.

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This could be explained with the help of an illustration. Let us suppose that we require a quote for Swiss francs against the Deutschmark. The quotation which we would receive was derived through the quote of both currencies against US dollar. If these rates against the dollar were \$1=Sfr 1.1326/1.1336 and \$1=DM1.3750/1.3755, it would be possible to derive the cross rate for the Swiss franc against Deutschmark. Our aim is to derive the selling and buying rates for Swiss francs in terms of Deutschmarks. If we are selling Swiss francs we will be buying Deutschmarks. So we begin with the rate for selling Swiss francs and buying dollars; we then move to selling dollars and buying Deutschmarks. The amalgamation of these two rates gives us the rate for selling Swiss francs and buying Deutschmarks. The rate for selling Swiss francs to the dealer and buying dollars is Sfr 1.1336; the rate for selling Swiss dollars and buying Deutschmarks is DM 1.3750. So selling \$0.8822 gives DM1.2120. Thus the rate for selling Swiss francs and buying Deutschmarks is Sfr 1=DM 1.2130, or DM1=Sfr 0.8244.

Example: Let us assume that the inter bank rate for US dollar to Indian rupee is \$1=₹34.2400 – 34.2600 and the rates in the inter bank for US dollar and French franc are \$1=French fr 4.9660 -4.9710. From the above information we can arrive at the rupee franc rate as follows:

In the first instance the customer buys US dollar from the market in India at \$1 selling rate of ₹34.2600.The US dollar thus acquired is disposed off in the London market for French franc at the market buying rate \$1=French franc4.9660. Therefore the rupee franc rate is:

French franc 1= 34.2600/4.9660=6.8989.

Rounded off to ₹ 6.8990.

Cross rates and Chain rule

The fixing of rate of exchange between the foreign currency and Indian rupee through the medium of some other currency is done by what it is known as Chain rule. The rate thus obtained is the Cross rate between these currencies. For example, let us assume that in the inter bank market dollar is quoted at ₹42.50 and at Singapore market dollar is quoted at CHF 1.8000. From this information the rate of exchange of Swiss Franc in terms of rupees may be calculated as follows:

? RS	=CHF 1	………….. (1)
If CHF 1.8000	=USD 1	………….. (2)
And USD 1	=₹42.50	………… (3)

It should be noted that the currency which appears as the second item (right hand side) in the first equation appears as first item (left hand side) in the next equation. Thus franc appears on the right hand side in the first equation left hand side in the second equation. US dollar which appears on the right hand side in the second equation appears on the left hand side in the third equation. The rate of

exchange between Indian rupee and Swiss franc can be calculated by dividing the product of the right hand side by the product of the left hand side.

$$\frac{42.50 \times 1 \times 1}{1.8000} = \text{Rs.}26.5620$$

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Ready Rates Based on Cross Rates

In the international foreign exchange market, the exchange rates for other currencies are quoted in the basis of the rates for the currency in terms of US dollar. They have to be converted into rupee terms before quoting to the customers.

Exchange quotations in international Management

With a few exceptions, in the international Management, all rates are quoted in against US dollar. For instance, at Singapore Swiss Franc may be quoted at 1.5425/5440 and Japanese Yen at 104.67/70. This should be understood as:

USD 1 = CHF 1.5425 – 1.5440

USD 1 = JPY 104.67 – 104.70

While interpreting an international market quotation, we may do that either from the variable currency or the standard currency, viz., the dollar. In the above quotation, in which Swiss Francs are received in exchange for dollars as: (a) purchase of Swiss Francs against Dollar or (b) sale of Dollar against Swiss Francs. For the sake of uniformity we will assume the standard currency as the currency being bought or sold.

The quotation for Swiss Franc is CHF 1.5425 and CHF 1.5440 per Dollar. While buying dollar the quoting bank would part with fewer francs per dollar and while selling dollars would require as many francs as possible. Thus CHF1.5425 is the dollar buying rate and CHF1.5440 is the dollar selling rate. It may be observed that when viewed from dollar the exchange quotation partakes the character of a direct quotation and the maxim Buy low; Sell high is applicable. We will denote such rates as Dollar/Foreign Currency Rates, implying that dollar is being bought or sold against foreign currency.

Few currencies such as pound sterling and Euro are quoted in variable units of USD. They are quoted as so many US dollars per unit of foreign currency concerned.

The standard currency here is the foreign currency and will indicate such quotation as Foreign Currency/Dollar Rate, the quotation for buying and selling of foreign currency against dollars.

Forward Margin/Swap Points

Dollar/Foreign Currency Quotation

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At Singapore market dollar may be quoted against Swiss franc and Japanese yen as follows:

	Swiss Franc	Japanese Yen
Spot	1.5425/40	104.67/70
1 month forward	50/60	17/16
2 months forward	70/80	30/29

The forward margin (also called swap margin or swap points) is quoted in terms of points and a point is the last decimal place in the exchange quotation. It could be in a four digit quotation, a point is 0.0001 or in a two decimal quotation like 0.01.

If the forward margin is ascending order then forward margin is at premium. Premium is added to the spot rate to arrive at the forward rates, both in respect of purchase and sale transactions. The forward margin is given in descending order then forward margin is at discount and deducted from the spot rate to arrive at the forward buying and selling rate.

Using the information already available, the forward rates for dollar against Swiss franc are arrived at as follows:

	Dollar Buying	Dollar Selling
1 month forward	CHF 1.5475	1.5500
2 months forward	CHF 1.5495	1.5520

As against Japanese Yen, the forward dollar is at a discount, i.e., the forward margin is in descending order. Therefore, discount is deducted from the spot rate to arrive at the forward rate, both for buying and selling.

The forward rates for dollar against, Japanese Yen based on the data already given are as follows:

	Dollar Buying	Dollar Selling
1 month forward	JPY 104.50	104.54
2 months forward	JPY 104.37	104.41

Foreign Currency / Dollar Quotation

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Let us assume the following exchange rates are prevailing:

	Pound Sterling	Euro
Spot	1.4326/48	1.0325/35
1 month forward	50/53	65/62
2 months forward	90/93	84/82

Against dollar, the forward pound sterling is at premium. Premium should be added to the spot rate to arrive at the forward rate.

Thus the forward rates for pound sterling are as follows:

	Pound Sterling Buying	Pound Sterling Selling
1 month forward	USD 1.4371	1.4401
2 months forward	USD 1.4416	1.4441

Forward Euro is at discount, since the forward margin is quoted in the descending order. Discount should be deducted from the spot rate to arrive at the forward rate.

Based on the data given, forward rates for Euro can be arrived at as follows:

	Euro Buying	Euro Selling
1 month forward	USD 1.0260	1.0273
2 months forward	USD 1.0241	1.0253

DETERMINATION OF FORWARD EXCHANGE RATES

Forward rate may be the same as the spot rate for the currency then it is expressed as at par with the spot rate. Forward exchange operations carry the same credit risk as spot transactions but for longer periods of time; however, there are significant exchange risks involved. It is necessary to consider how forward rates are quoted by foreign exchange dealers. A forward foreign exchange contract is an agreement between two parties to exchange one currency for another at some future date. The rate at which the exchange is to be made, the delivery date and the amounts involved are fixed at the time of agreement.

The forward rate for a currency may be costlier or cheaper than its spot rate. The difference between the forward rate and the spot rate is known as the forward margin or, swap points The forward margin may be either at premium, or at discount. If the forward margin is at premium, the foreign currency will be costlier under forward rate than under the spot rate. If the forward margin is at discount, the foreign currency will be cheaper for forward delivery than the spot delivery.

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Consider an example in which the US dollar is the base currency and the Deutschmark is the quoted currency. Assume that the spot rate is \$1=DM1.3753. The rate quoted by a bank today for delivery in three months time (today's three months forward rate) is \$1=DM1.3748. In this example, the dollar buys fewer Deutschmarks in three months time than it does today. So the Deutschmark is more expensive in the forward market. Thus the dollar stands at a discount relative to the Deutschmark; conversely, the Deutschmark stands at a premium relative to the dollar. The size of the dollar discount or Deutschmark premium is the difference between 1.3753 and 1.3748 that is, 0.05 Pfennig's. The convention in the foreign exchange market is frequently to quote in terms of points, or hundredths of a unit. Hence 0.05 Pfennig's is frequently quoted as 5 points.

In order to arrive at the forward pieces, the deutschmark premium or dollar discount must be subtracted from the spot rate. Were there a deutschmark discount or dollar premium, this would be added to the spot rate. But care has to be taken: in our example used a New York indirect quote. Had we used a New York direct quote, the reverse would apply: in other words, the deutschmark premium or dollar discount would have to be added to the spot quotation. An easier way to deal this problem is always to remember (and this has never, in practice, been found to be otherwise) that the bid/offer spread on the forward quote is always wider than the spread on the spot figure. If this is remembered it is an easy process to compare the two spreads and if the forward spread is narrower than the spot spread, the sums have been done incorrectly and re-computation is necessary.

Calculation of forward margin

Example: The forward margin can be calculated for a specific period given the spot rate and interest differential. Let the spot rate and interest rate differential are as follows: Spot rate \$1=Deutschmark 1.5000 and the interest rate differential is equal to 8 per cent(US 3.5% and DEM 11.5%).Let us also assume that the no. of days in a year to be 360 days and the forward margin is for a period of 180 days or 6 months.

The forward margin therefore is

$$\text{Forward Margin} = \frac{\text{Forward period X Interest Differential X Spot rate}}{\text{100x No. of days in the year}}$$

$$= \frac{180 \times 8 \times 1.5000}{100 \times 360}$$

The Forward margin for 180 days = 0.0600. The forward rate is obtained by adding the forward margin to spot rate. Forward rate is equal to Spot rate plus or minus forward margin.

Forward Quotations

The forward quotations for a currency will be quoted with the following information viz., the spot rate and the forward margin. Given this the forward rate has to be calculated by loading the forward margin into the spot rate.

Example: On 25th January in the Inter bank market the US dollar is quoted as follows:

Spot	US$1=₹ 42.4000/2100
Spot/February	2000/2100
Spot/March	3500/3600

In the above quotation, the first statement is the spot rate for dollars, the first the buying rate ₹42.4000 and the second ₹42.4200 the selling rate while the one given as spot February and spot March are forward margins for the above moths respectively. The margin is expressed in a point that is 0.0001 of the currency. Therefore, the forward margin for February is 20 paise and 21 paise. Under direct quotation, the first rate in the spot quotation is for buying and second for selling foreign currency. Correspondingly, in the forward margin, the first rates relate to buying and second the selling. Taking spot/February as example, the margin of 20 paise is for purchase and 21 paise for sale for foreign currency. Where the forward margin for a month is given in ascending order, it indicates that the forward currency is at premium. The outright forward rates arrived at by adding the forward margin to the spot rates.

Example:

	Buying rate		Selling rate	
Spot rate	February	March	February	March
	42.4000	42.4000	42.4200	42.4200
Add: Premium	0.2000	0.3500	0.2100	0.3600
Forward rates	42.6000	42.7500	42.6300	42.7800

Now we got from the above calculation the outright rates.

	Buying	selling
Spot delivery	USD 1 = ₹42.4000	42.4200
Forward delivery February	42.6000	42.6300
Forward delivery March	42.7500	42.7800

On the other hand if forward currency is at discount the quotation will be indicated by quoting the forward margin in the descending order. For instance if the quotation for inter bank market for pound sterling on 20th April as follows:

Spot	GBP 1 = ₹ 68.4000/4300
Spot/May	3800/3600
Spot/June	5700/5400

In this example the forward margin is in descending order (3800/3600) then the forward sterling rate would be at discount. The forward rates can be calculated as follows:

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Ex:	Buying rate		Selling rate	
	May	June	May	June
Spot rate	68.4000	68.4000	68.4300	68.4300
Less discount	0.3800	0.5700	0.3600	0.5400
Forward rates	68.0200	67.8300	68.0700	67.8900

Thus we get the outright rates of pound sterling as follows:

	Buying	selling
Spot delivery	GDP1 = ₹68.4000	68.4300
Forward delivery May	68.2000	68.0700
Forward delivery June	67.8300	67.8900

FACTORS DETERMINING FORWARD MARGIN

We have already defined forward margin as the difference between the spot rate and forward rate of a currency, making the forward currency cheaper or costly as compared to the spot currency. The difference in the rate of interest prevailing at different financial centre is a dominant factor determining forward margin. Other factors that affect forward margin are demand and supply of currency, speculation about spot rates and exchange control regulations.

Rate of Interest

The difference in the rate of interest prevailing at the home centre and the concerned foreign centre determines the forward margin. If the rate of interest at the foreign centre is higher than that prevailing at the home centre, the forward margin would be at discount. Conversely if the rate of interest at the foreign centre is lower than that at the home centre, the forward margin would be at premium. This can be explained as follows: When the bank enters into a forward sale contract with the customer it arranges for delivery of the foreign currency on the due date by keeping the funds in deposit at the foreign centre concerned. If the interest rate is higher at the foreign centre concerned, the net gain to the bank is passed on the customer by offering the forward rate at a discount. If the interest rate is lower at the foreign centre, the bank suffers a net loss and the loss is passed on to the customer by quoting, the forward rate at a premium

Demand and Supply

The demand for and supply of foreign currency to a very great extent determines the forward margin. In the foreign exchange market if the demand for foreign

currency is more than its supply, forward rate would at premium. On the other hand if the supply exceeds the demand then the forward rate would be at discount. Profit motivated investors who want to gain out of the interest rate may try to borrow from low interest centre and invest in high interest centre. For example the investor may borrow at New York at (6%) and invest in Mumbai at (12%). In order to secure his position he may try to cover the transaction in the forward market. Then he will sell spot dollar and buy forward dollar. When many such investors do this with the intension of booking profit in the market, then the supply of spot dollar increases and pushes the price upwards. Thus the difference between spot and forward rate widens. The force of demand and supply may take the premium on forward even beyond the limit set by interest differential. Therefore, it is not just interest differential alone that determines the forward margin. Sometimes it may also be stated that the loss on account of this premium may exceed the gain on account of interest differential on the investment. In that case there is no point in carrying out the plan of investment.

Speculation about Spot Rates

The spot rates form the basis for determining forward rates. And therefore, any speculation about spot rates would influence forward rates also. If the exchange dealers anticipate the spot rate to appreciate, the forward rate would be quoted at premium. If they expect the spot rate to depreciate, the forward rate would be quoted at a discount.

Exchange Regulations

Exchange control regulations enforced by the governments of the nations also influences the forward margin. And these regulations may put some conditions on the forward dealings and may obstruct the influence of the other factors on the forward margin. Such restrictions may include keeping of balances abroad, borrowing overseas etc. Intervention in the forward market by the central bank may also be done to influence the forward margin.

Summary and Conclusions

In this chapter we have understood the meaning of foreign exchange, foreign exchange rate and foreign exchange market. We have also discussed the basics of foreign exchange transactions – direct and indirect quotations, spot, forward exchange rates and forward margins etc. The determination of cross rates given the exchange rate for a currency has also been discussed. Finally, we have also analyzed the factors that determine the forward margin.

Model questions

1. How foreign exchange rate is determined?
2. What are the factors that determine the foreign exchange rate?
3. Explain the concepts of direct and indirect quotation.

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4. Define the concepts spot and forward exchange rates.
5. Explain the need for forward exchange rates and also explain forward premium and forward discount.
6. Discuss the factors that determine forward margin.
7. Calculate the forward buying and selling rates of euro in terms of rupees for 1 month, 2 months and 3months.

   Spot Euro 1 = ₹ 54.4050 – 54.4060

   1 month forward = 250/300

   2 months forward= 350/400

   3monthsforward=425/475

CHAPTER 2: MERCHANT RATES AND INTER BANK TRANSACTIONS

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The objective of this chapter is to introduce the reader the main elements of merchant transactions and different types of merchant rates quoted by the foreign exchange dealers. While banks being the authorized dealers in the foreign exchange market, the discussion in this chapter are also devoted to analyze the various inter-bank transactions carried out by the banks on behalf of their customers.

Introduction

Foreign exchange transactions in the foreign exchange market can be broadly divided into two: 1. Merchant transactions and 2. Inter bank transactions. While the dealing of a bank with its customer is known as merchant business or merchant transactions and the rates quoted in such transactions are called merchant rates, the foreign exchange transaction between banks are known as inter bank transactions and the rates quoted in such transactions are known as inter bank rates.

When a merchant transaction takes place? The exporter in order to convert his sale proceeds received in the form of foreign currency into domestic currency approaches the banker of his country. Similarly, the importer approaches his banker in his country to convert the domestic currency into foreign currency. Such transaction also takes place when a resident approaches his bank to convert foreign currency received by him into home currency and vice versa. In the both the deals the banks book a profit. These explain the existence of a distinct relationship between merchant rates and inter bank rates. The prevailing inter bank rate becomes the basis for merchant rates.

The merchant business in which the contract with the customer to buy or sell foreign exchange is agreed to and executed on the same day is known as ready transaction or cash transaction. As in the case of inter bank transactions, a value next day contract is deliverable on the next business day and a spot contract is deliverable on the second succeeding business day following the date of the contract. Most of the transactions with customers are on ready basis. In practice, the terms ready and spot are used synonymously to refer to transactions concluded and executed on the same day.

Basis for Merchant Rates

When the bank buys foreign exchange for the customer, it sells the same in the inter bank market at better rates and thus makes a profit out of the deal. In the inter bank market, the bank will accept the rate as dictated by the market. It can therefore sell foreign exchange in the market at the market buying rate for the currency concerned. Thus the inter bank buying rate forms the basis for quotation of buying rate by the bank to its customer. In the same manner, when the bank sells foreign exchange to the customer, it meets the commitment by purchasing the

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required foreign exchange from the inter bank market. It can acquire foreign exchange from the market at the market selling rate. Therefore, the inter bank selling rate forms the basis for quotation of selling rate to the customer by the bank. The inter bank rate on the basis of which the bank quotes its merchant rate is known as base rate.

Exchange Margin

When a merchant customer approaches his banker for foreign exchange and if the bank quotes the base rate to the customer, it makes no profit. On the other hand, there are administrative costs involved in the transaction. Moreover, the deal with the customer takes place first and only after acquiring or selling the foreign exchange from/to the customer, the bank goes to the inter bank market to sell or acquire the foreign exchange required to cover the deal with the customer. Between these transactions there will be time gap of say an hour or two and the exchange rates are fluctuating constantly and by the time the deal with the market is concluded, the exchange rate might have turned adverse to the bank. Under such circumstances, to cover the administrative cost, to overcome the exchange fluctuation and gain some profit on the transaction to the bank sufficient margin need to be built into the rate. This is done by loading exchange margin to the base rate. The quantum of margin that is built into the rate is determined by the bank concerned, keeping with the market trend.

FEDAI has standardized the exchange margin to be charged by the banks and the banks are free to load margins within the range. The FEDAI fixed margins are:

1.	TT Purchase rate	0.025% to 0.080%
2.	Bills Purchase rate	0.125% to 0.150%
3.	TT Selling rate	0.125% to 0.150%
4.	Bills selling rate	0.175% to 0.200%
		(Over TT selling rate)

Fineness of Quotation

The exchange rate is quoted upto 4 decimals in multiples of 0.0025. The quotation is for one unit of foreign currency except in the case of Japanese Yen, Belgian Franc, Italian Lira, Indonesian Rupiah, Kenyan Shilling, Spanish Peseta and currencies of Asian Clearing Union countries (Bangladesh Taka, Myanmar Kyat, Iranian Riyal, Pakistani Rupee and Sri Lankan Rupee) where the quotation is per 100 units of the foreign currency concerned. Examples of valid quotations are:

USD 1 = ₹ 43.2350

GBP 1 = ₹ 63.3525

EUR 1 = ₹ 43.5000

JPY 100 = ₹ 35.6075

While computing the merchant rates, the calculations can be made upto five places of decimal and finally rounded off to the nearest multiple of 0.0025. For example, if rate for US dollar works out to ₹ 43.12446 per dollar, it can be rounded off to ₹ 43.1250. The rupee amount paid to or received from a customer on account of exchange transaction should be rounded off to the nearest rupee, i.e., up to 49 paise should be ignored and 50 to 99 paise should be rounded off to higher rupee (Rule 7 of FEDAI).

DIFFERENT MODES OF FOREIGN EXCHANGE REMITTANCES

The flow of foreign exchange may take the form either moving into the country as a result of purchase transaction or moving out of the country as a result of a sale transaction. Either case the remittances could take place through various forms. The different forms of remittances are ;

1. Demand draft
2. Mail transfer
3. Telegraphic transfer and
4. Personal cheques.

Types of Buying Rates

In a purchase transaction the bank acquires foreign exchange from the customer and pays him in Indian rupees. Under such circumstances, while some of the purchase transactions result in the bank acquiring foreign exchange immediately, some may take time in the acquisition of foreign exchange. Say for instance, if the bank pays a demand draft drawn on it by its correspondent bank, there is no delay because the foreign correspondent bank would already have credit the nostro account of the paying bank while issuing the demand draft. On the other hand, if the bank purchases an On demand bill from the customer, it has first to be sent to the drawee's place for collection. The bill will be sent to the correspondent bank for collection. The correspondent bank will present the bill to the drawee. The nostro account of the bank with its correspondent bank is credited only when the drawee makes payment against the bill. Suppose this takes 20 days. The bank will acquire foreign exchange only after 20 days.

Based on the time of realization of foreign exchange by the bank, the bank quotes two types of buying rates:

(i) TT Buying Rate, and
(ii) Bill Buying Rate.

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1. TT Buying Rate (TT stands for Telegraphic Transfer)

When there is no delay involved in the realization of foreign exchange by the bank then the rate applicable in such a transaction is TT Buying rate. In other words, the banks account with the overseas bank account of the bank would already have been credited with. In order to arrive at the TT buying rate, the exchange margin is deducted from the inter bank buying rate.

Though the name implies telegraphic transfer, it is not necessary that the proceeds of the transaction are received by telegram. Any transaction where no delay is involved in the bank acquiring the foreign exchange will be done at the TT rate.

Transactions where TT rate is applied are:

(i) Payment of demand drafts, mail transfers, telegraphic transfers, etc. drawn on the bank where bank's nostro account is already credited;

(ii) Foreign bills collected. When a foreign bill is taken for collection, the bank pays the exporter only when the importer pays for the bill and the bank's nostro account abroad is credited;

(iii) Cancellation of foreign exchange sold earlier. For instance, the purchaser of a bank draft drawn on New York may later request the bank to cancel the draft and refund the money to him. In such case, the bank will apply the TT buying rate to determine the rupee amount payable to the customer.

The method of calculating TT buying rate for foreign exchange to be purchased for US dollars is given below.

TT Buying Rate

Dollar / Rupee market spot buying rate = ₹ ....

Less: Exchange margin — ₹ ....

TT Buying rate = ₹ ....

Rounded off to nearest multiple of 0.0025.

2. Bill Buying Rate

When foreign bill is purchased then the rate applicable would be bill buying rate. Under this, when a bill is purchased, the proceeds will be realized by the bank after the bill is presented to the drawee at the overseas center. In the case of a usance bill the proceeds will be realized on the due date of the bill which includes the transit period and the usance period of the bill.

Let us suppose that a sight bill on London is purchased; the realization will be after a period of about 20 days (transit period) and the bank would be able to dispose of the foreign exchange only after this period. Therefore, the rate quoted to the customer would be based not on the spot rate in the inter bank market, but on the inter bank rate for 20 days forward. Similarly, if the bill purchased is 30

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days usance bill, then the bill will realize after about 50 days (20 days transit plus 30 days usance bill, period). Therefore, the bank would be able to dispose of foreign exchange only after 50 days; the rate to the customer would be based on the inter bank rate for 50 days forward.

It is important in this that while loading the bills buying rate with forward margin two points need to be taken into account. First, forward margin is normally available for periods of a calendar month and not for 20 days etc. Secondly, forward margin may be at a premium or discount. Premium is to be added to the spot rate and discount should be deducted from it. Since the banks aim is to book profit, while making calculations, the bank will see that the period for which forward margin is loaded is beneficial to the bank.

Let us suppose that on 23rd January inter bank quotation for US dollar was as under:

Spot	USD 1 = ₹ 43.5000/5500
Spot/January	2000/2100
Spot/February	5000/5100
/March	7500/7600

The bank wants to calculate bill buying rate for a sight bill. The transit period is, say 20 days. The bill will fall due on 12th February. Apparently, the forward rate relevant is spot/February rate as this is valid for the entire month of February. However, it should be noted that forward dollar is at premium. The customer will be getting more rupees per dollar under the forward rate than under the spot rate. As we have already seen, the forward premium represents the interest differential. The Spot/February forward premium includes interest differential up to the last day of February. As this benefit does not fully accrue on 12th February, when the bill is expected to mature, the bank will not concede premium up to this month. It will concede premium only up to the last completed month and base its bill buying rate for dollar on the Spot/January forward rate. [If the bank takes Spot/February forward premium, the base rate will be ₹44.0000. By taking only Spot/January premium, the bank offers only ₹ 43, 7000 per dollar, which is beneficial to the bank.] In case of a 30 days usance bill submitted on the same date, the expected due date (called the notional due date) is 14th March. The bank will concede premium only up to February. Thus, where the foreign currency is at premium, while calculating the bill buying rate, the bank will round off the transit and usance periods to lower month.

Let us assume that on 18th April, the dollar is at discount and the quotation in the inter bank market is as under:

Spot	USD 1 = ₹ 42.7500/8000
Spot/April	1300/1200
/May	3000/2900
/June	5500/5400

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Let us consider an example that the bank is required to quote a rate for purchasing a sight bill on New York. Transit period is 20 days. The bill will fall due on 8th May. Since dollar is at discount, forward dollar fetches lesser rupees than spot dollars. In other words, longer the forward period involved, the bank is able to get dollar from the customer at cheaper rate. Therefore, the bank will deduct discount up to May end while quoting for this bill. In case of a usance bill for 30 days, the due date falls on 7th June. The bank will base its rate to the customer on Spot/June forward rate. Here, the due date of the bill is rounded off to the higher month, i.e., end of the month in which it falls. Thus, where the foreign currency is at discount, while calculating the bill buying rate, the bank will round off the transit and usance periods to higher month.

It is important to keep in mind the rule for loading forward margin in the bill buying rate : For calculating bill buying rate, if the forward margin is at premium round off the transit period and usance period to lower month; if the forward margin is at discount round off the forward margin to the higher month.

In the TT buying rate, the bank would include exchange margin in the rate quoted to the customer while quoting for purchase of bills also. The margin may be slightly higher than that for TT buying rate.

It should have been observed that there will be more than one bill rate, each for a different period of usance of the bill. The method of calculating bill buying rate is as follows:

Bill Buying Rate	
Dollar/Rupee market spot buying rate	= Rs. ……………
Add : Forward premium	
(For transit and usance; rounded off to lower month)	
OR	
Less : Forward discount	
(For transit and usance : rounded off to higher month)	± Rs. ……………..
	= Rs. ……………..
Less: Exchange margin	- Rs. ……………..
Bill buying rate	= Rs. ……………..
Rounded off to the nearest multiple of 0.0025	

Recovery of Interest on Bills Purchased

When the bank buys a bill from the customer, it immediately pays him in Indian rupees. The bank is entitled to claim interest from the customer from the date of

purchase of the bill till the bill realized and credited to the nostro account of the bank with correspondent bank abroad.

On the rupee value of the bill purchased, on the date of purchase itself, the bank should collect separately, by debit to customer's account, the interest on the bill up to its anticipated due date (called the notional due date) comprising:

(i) the normal transit period;

(ii) the usance of the bill; and

(iii) the grace period, if applicable at the place where the bill is drawn payable.

The normal transit period is the period of transit allowed by FEDAI for bills drawn on different countries. The rate of interest to be collected will be determined by the bank concerned subject to the directives of Reserve Bank in this regard. Interest shall also be rounded off to the nearest rupee.

Interest is calculated by the formula:

$$\frac{\text{Rate value of bill x Rate of Interest x Number of days}}{\mathbf{100 \text{ x } 365}}$$

For the bill in Example assuming an interest rate of 10% p.a., the interest recovered on purchase of the bill would be as follows:

$$\frac{4298{,}750 \text{ x } 10 \text{ x } 20}{100 \text{ x } 365} = ₹\ 23{,}555.$$

Types of Selling Rates

In a sale transaction when the bank sells foreign exchange and it actually receives Indian rupees from the customer and parts with foreign currency. The sale is effected by issuing a payment instrument on the correspondent bank with which it maintains the nostro account. Immediately on sale, the bank buys the requisite foreign exchange from the market and gets its nostro account credited with the amount so that when the payment instrument issued by it is presented to the correspondent bank it can be honoured by debit to the nostro account. Therefore for all sales on ready/spot basis to the customer, the bank resorts to the inter bank market immediately and the base rate is the inter bank spot selling rate. However, depending upon whether the sale involves handling of documents by the bank or not, two types of selling rates are quoted in India. They are:

(i) TT selling rate ; and

(ii) Bills selling rate.

1. TT Selling Rate

This is the rate applicable for all transactions which do not involve handling of documents by the bank.

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Transactions for which this rate is quoted are:

(i) Issue of demand drafts, mail transfers, telegraphic transfers, etc., other than for retirement of an import bill ; and

(ii) Payment made for an import transaction where documents were received directly by the importer;

(iii) Cancellation of a purchase transaction.

The TT selling rate to the customer is calculated on the basis of inter bank selling rate by adding exchange margin to the inter bank rate.

2. Bills Selling Rate

This rate is to be used for all transactions which involve handling of documents by the bank: for example, payment against import bills.

This bills selling rate is calculated by adding exchange margin to the TT selling rate. That means the exchange margin enters into the bills selling rate twice, once on the inter bank rate and again on the TT selling rate.

The method of calculating selling rate is given below:

Selling Rates (TT and Bills Selling)	
Dollar / Rupee market spot selling rate	= Rs. ……………
Add : Exchange margin for TT selling rate	+ Rs. ………………
TT Buying rate	= Rs. ………………..
Add : Exchange margin for Bills selling rate	+ Rs. ……………..
Bills Selling Rate	= Rs. …………..
Rounded off to nearest multiple of 0.0025 and quoted to customer.	

Some aspects of exchange quotation

Spread Between TT Rates

While making exchange quotations the banks have the discretion to include the exchange margin at rates determined by them. However, that the maximum spread between TT buying and TT selling rates quoted to the customers shall be as follows:

Name of Currency	Current maximum spread between customer rates for TT buying and TT selling from the mean TT rate (taking both sides together)
(i) US dollar	1 %
(ii) Pound sterling, Deutsche mark, Japanese yen, French franc, Swiss franc, Dutch guilder and Australian dollar	2 %
(iii) Other currencies	No limit at present, but banks shall keep the rate spread to the minimum.

The banks are; however, free to quote to customers which are better than those warranted by the spread limits.

Let us call the currency (other than US dollar) for which the exchange rate is calculated Calculation of ready rates as the foreign currency. Suppose a customer tenders a foreign current bill for purchase by the bank. We have seen in the last chapter that when customer tenders a dollar bill, the bank disposes of the dollar acquired from customer in the inter bank market at the market buying rate and therefore inter bank buying rate for dollar forms the basis for quoting dollar buying rate the customer. In the case of a foreign currency being tendered by the customer bank should first get foreign currency converted to US dollar in the international market. In other words, it has to buy dollars in the international market against foreign currency. The bank can do so at the market selling rate for dollar. Therefore the merchant rate for the foreign currency would be calculated by crossing the dollar selling rate against the foreign currency in the international market and dollar buying rate against rupee in the inter bank market. The method of calculating ready rates thus is tabulated below.

TT Buying Rate		
Dollar / Rupee market spot buying rate		= Rs. ……………
Less :	Exchange margin	- Rs. ………………
TT Buying rate for dollar		= Rs. ………………..
Dollar/Foreign Currency market spot selling rate		= FC ……………..
TT buying rate for Foreign Currency = (1) divided by (2)		= Rs. …………..
Rounded off to nearest multiple of 0.0025.		

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Bill Buying Rate

Dollar/Rupee market spot buying rate	Rs. ………….
Add : Forward premium (for transit and usance Periods; rounded off to lower month)	
OR	
Less : Forward discount (for transit and usance Periods; rounded off to higher month	± Rs. ………….

Less : Exchange margin	- Rs. …………….
Bill buying rate for dollar	= Rs. ………….
Dollar/Foreign currency market spot selling rate	= FC …………
Add : Forward premium (for transit and usance periods : Rounded off to higher month)	
OR	
Less : Forward discount (for transit and usance periods; Rounded off to lower month)	± FC ………….
	= FC ……………
Bill buying rate for foreign currency = (1) Divided by (2)	= Rs. …………….
(2)	
Rounded off to nearest multiple to 0.0025.	

Selling Rates

When the bank sells foreign exchange (other than dollar) to the customer, it has acquired the required foreign currency in the international market by selling equivalent US dollars. The bank can sell US dollars in the international mark the market buying rate for US dollars against the foreign currency concerned dollars required to effect this sale have to be acquired in the inter bank mark the market selling rate. Therefore, in calculating the merchant selling rate foreign currency the relevant rates are dollar buying rate against the foreign currency concerned in the international market and dollar selling rate against rupees the inter bank market.

FORWARD EXCHANGE CONTRACT

In the previous chapter, we have already discussed the forward exchange rate and the context in which it arises etc. Here our interest is to understand how the forward exchange rate is entered into and the problems associated with it.

A forward exchange contract is a mechanism by which one can ensure the value of one currency against another by fixing the rate of exchange in advance for a transaction expected to take place at a future date. It is a tool to protect the exporters and importers against exchange risks. The uncertainty about the rate which would prevail on a future date is known as exchange risk. From the point of an exporter the exchange risk is that the foreign currency in which the transaction takes place may depreciate in future and thus the expected realization will be less in terms of local currency. The importer also faces exchange risks when the transaction is designated in a foreign currency. In this case the foreign currency may appreciate and the importer may be compelled to pay an amount more than that was originally agreed upon in terms of domestic currency.

In the case of forward exchange contract two parties, one being a banker from one country entering to a contract to buy or sell a fixed amount of foreign currency on a specified future date or future period at a predetermined rate. The forward exchange contracts are entered into between a banker and customer or between two parties.

FEATURES OF FORWARD EXCHANGE CONTRACT

The following are the features of a forward exchange contract. FEDAI has also laid down certain guidelines defining certain aspects of forward exchange contract.

a) **Parties**: There are two parties in a forward exchange contract. They can be,

   1) A bank and a customer.
   2) Two banks in the same country.
   3) Two banks in different countries.

b) **Amount:** forward exchange contracts are entered into for a definite sum expressed in foreign currency.

c) **Rate**: the rate at which the conversation of foreign exchange is to take place at a future date is agreed upon at the time of signing the forward contract which is known as the contracted rate and is to be mentioned in the contract.

d) **Date of Delivery**: Date of delivery in a forward contract means the future date on which the delivery of foreign exchange is to take place and is computed from the spot date or date of contract. However in practice, date of delivery is computed from the spot date and hence if a forward contract is signed on 30th Oct with spot date as Nov, 2005 for 2months forward. The date of delivery is Jan 1, 2006.

   In India Rule7, FEDAI has laid down certain guidelines regarding date of delivery under forward contract.

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In the case of bills/documents negotiated, purchased or discounted-date of negotiation, purchase or discount and payment of rupees to customer. In the case of bills/documents sent for collection, date of payment of rupees to the customer on realization of bills.

In case of retirement /crystallization of import bills/documents-the date of retirement /crystallization of liability whichever is earlier.

e) **Option period**: in India FEDAI under Rule 7 has laid down guidelines for option period. The option period of delivery in an option forward contract should be specified as a calendar week that is 1st to 7th, 8th to 15th, 16th to 23rd or 24th to last working day of the month or a calendar fortnight that is 15th or 16th to last working day the month. If the fixed date of delivery or the last date in an option forward contract happens to be a holiday, the delivery shall be effected/delivery option exercised on the preceding working day.

f) **Option of delivery:** In all option forward contracts the merchant whether a buyer or a seller will have the option of delivery.

g) **Place of delivery:** All contracts shall be understood to read –to be delivered or paid for at the bank and –at the named place . That is, the contractual obligations under a forward exchange contract like delivery of foreign exchange or payment are to be executed at the specified branch of the bank.

FEDAI GUIDELINES FOR FORWARD CONTRACTS: RULE NO 7

- Exchange contracts shall be for definite amount.
- Unless date of delivery is fixed and indicated in the contract the option period of delivery should be specified as calendar week or calendar fortnight or calendar month.
- If the fixed date of delivery or last date of delivery option is a holiday, the delivery has to be effected on the preceding working day.
- Place of delivery is always at the Bank and at the named place.
- Option of delivery is always that of the merchant.
- The minimum commission is ₹ 250 for booking a forward contract.
- Minimum charge is ₹ 100 for every request of early delivery extension/ cancellation.

Fixed and Option Forward Contracts

Under the fixed forward contract the delivery of foreign exchange should take place on a specified future date. Then it is known as fixed forward contract. Suppose

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a customer enters into a three months forward contract on 5th January with his bank to sell Euro 15,000, then the customer would be presenting a bill or any other instrument on 7th April to the bank for Euro 15,000. The delivery of foreign exchange cannot take place prior to or later than the determined date.

Though forward exchange is a mechanism wherein the customer tries to over come the exchange risk, the purpose will be defeated if the delivery of foreign exchange does not take place exactly on the due date. Practically speaking, it is not possible for any exporter to determine in advance the precise date on which he will be tendering export documents for reasons which are internal relating to production. Besides internal factors relating to production many other external factors also decide the date on which he is able to complete shipment and present documents to the bank. More often, what is possible for the exporter is only estimate the probable date around which he would be able to complete his commitment.

Under such circumstances, just to avoid the difficulty of fixing the exact date for delivery of foreign exchange, the customer may be given a choice of delivering the foreign exchange, during a given period of days. Such an arrangement whereby the customer can sell or buy from the bank foreign exchange on any day during a given period of time at a predetermined rate of exchange is known as Option Forward Contract. The rate at which the deal takes place is the option forward rate. For example, on 10th June a customer enters into two months forward sale contract with the bank with option over August. It means the customer can sell foreign exchange to the bank on any day between 1st August and 31st August In the example, the period during which the transaction takes place is known as the Option Period.

Computation of Forward Exchange Rates

Fixed Forward Contracts

The method of calculation of forward rates is similar to that of ready rates discussed earlier. However, in the case of forward rates, the forward margin added will include the forward period as well besides the transit and usance period. While selling the forward margin is included only for the forward period.

Calculation of Option Forward Rates

In the case of option forward contract the customer has the freedom to deliver the foreign exchange on any day during the option period. The bank should quote a single rate valid for the entire option period. The option rate quoted on behalf of the customer is based on the inter bank option forward rate, while between banks the option of delivery under a forward contract rests with the buying bank. To put it simply, the quotation under option delivery is as follows: for purchase transactions quote premium for the earliest delivery and for sale transactions quote premium for latest delivery.

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Execution of Forward Contract

A customer under forward contract knows in advance the time and amount of foreign exchange to be delivered and the customer is bound by this agreement. There should not be any variation and on the due date of the forward contract the customer will either deliver or take delivery of the fixed sum of foreign exchange agreed upon. But, in practice, quite often the delivery under a forward contract may take place before or after the due date, or delivery of foreign exchange may not take place at all. The bank generally agrees to these variations provided the customer agrees to bear the loss, if any, that the bank may have to sustain on account of the variation.

Though the delivery or take delivery of a fixed sum of foreign exchange under a forward contract has to take place at the agreed time, quite often this does not happen and it may either take place before or after the due date agreed upon.

However, the bank generally agrees to these variations provided the customer bears the loss if any on account of this variation.

Based on the circumstances, the customer may end up in any of the following ways:

1. Delivery on the due date.
2. Early delivery.
3. Late delivery.
4. Cancellation on the due date.
5. Early cancellation.
6. Late cancellation.
7. Extension on the due date.
8. Early extension.
9. Late extension.

As per the Rule 8 of FEDAI, a request for delivery or cancellation or extension of the forward contract should be made by the customer on or before its maturity date. Otherwise a forward contract which remains unutilized after the due date becomes an overdue contract. Rule 8 of FEDAI stipulates that banks shall levy a minimum charge of ₹ 100 for every request from a merchant for early delivery, extension or cancellation of a forward contract. This is in addition to recovery of actual loss incurred by the bank caused by these changes.

Delivery on Due Date

This is the situation envisaged when the forward contract was entered into. When the foreign exchange is delivered on the due date, the rate applied for the transaction would be the rate originally agreed, irrespective of the spot rate prevailing.

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Early Delivery

When a customer requests early delivery of a forward contract, i.e., delivery before its due date, the bank may accede to the request provided the customer agrees to bear the loss, if any, that may accrue to the bank.

The various operations involved may be summarized thus:

With Customer	With Market
1 st April (a) Sell forward due June	(b) Buy forward due June
1st May (c) Sell in execution of (a)	(d) Buy spot to accomplish (c)
	(e) Sell forward due June, to dispose of the proceeds of (b)
1st June	(f) Receive delivery under (b) (g) Deliver proceeds of (f) in execution of (e)

On 1st May, the bank makes a spot purchase and forward sale of the same Currency for the same value. The difference between the rate at which the currency is purchased and sold in a swap deal is the swap difference.

The swap difference may be a swap loss or swap gain depending upon the rates prevailing in the market. If the bank buys high and sells low, the differences Swap loss recoverable from the customer. It the bank buys low and sells high, the difference is the swap gain payable to the customer.

On 1st May, the bank receives rupees from the customer on sale of foreign exchange to him. It pays rupees to the market for the spot purchase made. If the amount paid exceeds the amount received, the difference represents outlay of funds. Interest on outlay of funds is recoverable from the customer from the date of early delivery to the original due date at a rate not lower than the prime lending rate of the bank concerned.

If the amount received exceeds the amount paid, the difference represents inflow of funds. At its discretion, the bank may pay interest to the customer of inflow of funds at the appropriate rate applicable for term deposits for the period for which the funds remained with it.

Charges for early delivery will comprise of:

(i) Swap difference;

(ii) Interest on outlay of funds; and

(iii) Flat charge (or handling charge) ₹ 100 (minimum).

Important Note: In the deal with its customer the bank is the market maker and the transaction is talked of as purchase or sale from the banks point of view. When the bank deals with the market, it is assumed that the market is the mark

maker. Therefore, the market rates are interpreted with the market buying selling the foreign exchange. The bank can buy at the market selling rate and sell at the market buying rate.

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Cancellation/Extension of forward contract

The customer is having the right to cancel a forward contract at any time during the currency of the contract. The cancellation is governed by Rule 8 of the FEDAI. The difference between the contracted rate and the rate at which the cancellation is done shall be recovered or paid to the customer, if the cancellation is at the request of the customer. Exchange difference not exceeding ₹50 shall be ignored. The spot rate is to be applied for cancellation of the forward contract on due date. The forward rate is to be applied for cancellation before due date. In the absence of any instruction from the customer, contracts which have matured shall on the 15th day from the date of maturity be automatically cancelled. If the 15th day falls on a holiday or Saturday the cancellation will be done on the next succeeding working day. The customer is liable for recovery of cancellation charges and in no case the gain is passed on to the customer since the cancellation is done on account of customer's default.

The customer may approach the bank for cancellation when the underlying transaction becomes infractions, or for any other reason he wishes not to execute the forward contract. If the underlying transaction is likely to take place on a day subsequent to the maturity of the forward contract already booked, he may seek extension in the due date of the contract. Such requests for cancellations or extension can be made by the customer on or before the maturity of the forward contract.

Cancellation of Forward Contract on Due date

When a forward purchase contract is cancelled on the due date it is taken that the bank purchases at the rate originally agreed and sells the same back to the customer at the ready TT rate. The difference between these two rates is recovered from/paid to the customer. If the purchase rate under the original forward contract is higher than the ready T.T selling rate the difference is payable to the customer. If it is lower, the difference is recoverable from the customer. The amounts involved in purchase and sale of foreign currency are not passed through the customer's account. Only the difference is recovered/paid by way of debit/credit to the customer's account.

In the same way when a forward sale contract is cancelled it is treated as if the bank sells at the rate originally agreed and buys back at the ready T.T buying rate. The difference between these two rates is recovered from/paid to the customer.

Example: A forward sale contract for French francs 2,50,000 for an import customer on 15th March for delivery on 15th April at ₹7.0450. The customer requests for cancellation of the contract on the due date. The following information are available. French francs were quoted in London foreign exchange market as under.

Spot	USD 1 = FRF 6.0200/0300
1 month	305/325
2 months	710/760

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The U.S dollars were quoted in the local inter bank exchange market on the date of cancellation is as follows.

Spot	USD 1 = ₹ 42.2900/2975
Spot/May	3000/3100
Spot/June	6000/6100

Exchange margin required is 0.10%. What will be the cancellation charges payable by the customer?

Solution: The sale contract will be cancelled at the ready T.T buying rate.

Dollars/rupee market buying rate	=	₹ 42.2900
Less exchange margin at 0.10%	=	Re 0.0423
		₹42.2477
Dollar/Franc Management spot selling rate		= FRF 6.0300
TT buying rate for Franc (42.2477 / 6.0300)		= ₹ 7.0062
Rounded off the applicable rate is ₹ 7.0050		
Franc sold to customer at		= ₹ 7.0450
Now bought from him at ₹		7.0050
Net amount payable by customer per franc		Re 0.0400

Therefore, at Re.0.0400 per franc, the customer has to pay ₹ 10,000 for FRF 2, 50,000 by including flat charge of ₹100, on cancellation ₹ 10,100 will be recovered from the customer.

Early Cancellation of a Forward Contract

Sometimes the request for cancellation of a forward purchase contract may come from a customer before the due date. When such requests come from the customer, it would be cancelled at the forward selling rate prevailing on the date of cancellation, the due date of this sale contract to synchronize with the due date of the original forward purchase contract. On the other hand if a forward sale contract is cancelled earlier than the due date, cancellation would be done at the forward purchase rate prevailing on that day with due date of the original forward sale contract.

Extension on Due date

An exporter finds that he is not able to export on the due date but expects to do so in about two months. An importer is unable to pay on the due date but is confident of making payment a month later. In both these cases they may approach their bank with whom they have entered into forward contracts to postpone the due

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date of the contract. Such postponement of the date of delivery under a forward contract is known as the extension of forward contract.

The earlier practice was to extend the contract at the original rate quoted to the customer and recover from him charges for extension. The reserve bank has directed that, with effect from16.1.95 when a forward contract is sought to be extended, it shall be cancelled and rebooked for the new delivery period at the prevailing exchange rates.

FEDAI has clarified that it would not be necessary to load exchange margins when both the cancellation and re-booking of forwards contracts are undertaken simultaneously. However it is observed that banks do include margin for cancellation and rebooking as in any other case.

Further only a flat charge of ₹100 (minimum) should be recovered and not ₹250 as in the case of booking a new contract.

Overdue Forward Contracts

As we have already seen, the customer has the right to utilize or cancel or extend the forward contract on or before its due date. No such right exists after the expiry of the contract.

FEDAI Rule 8 provides that a forward contract which remains overdue with any instructions from the customer concerned on or before its due date shall on the 15th day from the date of maturity be automatically cancelled by the bank. The customer remains liable for the exchange difference arising there from but if it results in profit it need not be passed on to the customer. In case of delivery subsequent to automatic cancellation the appropriate current rate prevailing on such delivery shall be applied.

Roll over Forward Contracts

When deferred payment transactions of imports/exports takes place, the repayment of the installment and interests on foreign currency loans by the customer requires long term forward cover where the period extends beyond six months. The bank may enter into forward contract for long terms provided there is suitable cover is available in the market. However the cover is made available on roll over basis in which cases the initial contract may be made for a period of six months and subsequently each deferred installments for the outstanding balance of forward contract by extending for further periods of six months each. For these transactions the rules and charges for cancellation / extension of long term forward contracts are similar to those of other forward contracts.

Inter bank Deals

Foreign exchange transactions involves transaction by a customer with the bank while inter bank deals refer to purchase and sale of foreign exchange between banks. In other words, it refers to the foreign exchange dealings of a bank in inter bank market.

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Cover Deals

The banks deal with foreign exchange on behalf of its customers. Purchase and sale of foreign currency in the market undertaken to acquire or dispose of foreign exchange required or acquired as a consequence of its dealings with its customers is known as the cover deal. In this way that is through cover deal the bank gets insured against any fluctuation in the exchange rates.

While quoting a rate to the customer the bank is guided by inter bank rate to which it adds or deducts its margin, and arrives at the rate it quotes to the customer. For example, if its is buying dollar from the customer special it takes inter bank buying rate, deducts its exchange margin and quotes the rate. This exercise is done on the assumption that immediately on purchase from customer the bank would sell the foreign exchange to inter bank market at market buying rate.

Foreign currency is considered as peculiar commodity with wide fluctuations price, the bank would like to sell immediately whatever it purchases and whenever it sells, it immediately tries to purchase so that it meets it is commitment. The main reason for this is that the bank wants to reduce exchange risk it faces to the minimum. Otherwise, any adverse change in the rate would affect its profits.

In the case of spot deals the transaction is quite simple. If the bank purchased any foreign exchange, it would try to find another customer to whom it can sell this and thus books profit. In this process the profit would be the maximum because both buying and selling rates are determined by the bank and the margin between the rates is the maximum. If it cannot find another customer its sells in inter bank market where the rate is determined by the market conditions and the margin is narrower here.

Example: Your dealer in the Dealing Room sells through an exchange broker in the local market USD 5, 00,000 delivery spot in cover of a telegraphic transfer from abroad.Calculate the rupee amount receivable from this sale assuming that US dollar / Rupees rates are quoted in the local market as under:

Spot USD 1 = ₹ 42.8000/8500 Brokerage 0.01%

Solution: The bank sells at the market buying rate of ₹ 42.8000.

Rupee amount received on sale of USD 5,00,0000

At ₹ 42.8000	=	₹	2,14,00,000
Brokerage payable at 0.01%	-	₹	2,140
Net amount receivable on the deal	=	₹	2,13,97,860

Example: A customer sold French Francs 10,00,000 value spot to another customer at ₹ 6.5200 and covered himself in London market on the same day when the exchange rates were as under:

Spot   USD 1 = FRF 6.5880/5920

Local inter bank market rates for US dollars were:

Spot   USD 1 = ₹ 42.7…/8500

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Calculate the cover rate and ascertain the profit or loss in the transaction.

Ignore brokerage on the inter bank transaction.

Solution: The bank covers itself by buying Francs (or selling dollars) from the London market at market buying rates for dollar. The requisite dollar is acquired in the local inter bank market at the market selling rate for dollar against rupee.

Dollar/Rupee selling rate	=	Rs.	42.8500
Dollar/Franc buying rate	=	FRF	6.5880
Franc/Rupee cross rate (42.8500 + 6.5880)	=	Rs.	6.5042
Franc is sold to customer at		Rs.	6.5200
The sale is covered at		Rs.	6.5042
Profit per Franc sold	=	Rs.	0.0158
Profit on FRF 10,00,000 at Re. 0.0158 per Franc	=	Rs.	15,800.

Note : This rate has not been rounded off because no transaction is done at this rate but is calculated only to arrive at the profit.

Trading

Trading refers to purchase and sale of foreign exchange in the market other than to cover bank's transactions with the customers. The purpose may be to gain on the expected changes in exchange rates. In India the scope for trading, although still subject to controls, is getting wider the relaxations being made in the exchange control regulations.

Example : Your forex dealer had entered into a cross currency deal and had sold USD 5,00,000 against Deutsche Marks at USD 1 = DEM 1.4400 for spot delivery. However, later during the day, the market became volatile and the dealer in compliance with his top management's guidelines had to square up the position by purchasing USD 5, 00,000 against DEM at the on-going rate. Assuming the spot rates are as under:

USD 1 = INR 42.4300/4500

and USD 1 = DEM 1.4440/4450

What will be the gain or loss in the transaction? Your answer should be in rupees. Ignore brokerage.

Solution: To square its position the bank can purchase US dollars against marks at the market selling rate of DEM 1.4450 per dollar.

DEM acquired on sale of USD 5,00,000 at DEM 1.4400 = DEM 7,20,000
DEM paid on purchase of USD 5,00,000 at DEM 1.4450 = DEM 7,22,500

Loss on combined deal in Marks = DEM 2,500

In terms of rupees the loss would be the rupee outlay required to acquire DEM 2,500 from the market. The bank sells USD and acquires DEM at the

market USD buying rate of DEM 1.440. The requisite USD it can acquire in the market at the market selling rate of ₹ 42.4500. The Mark/Rupee cross rate is (42.4500 + 1.4440) ₹ 29.3975.

Loss on the transaction in rupees = ₹ 23.3975 x 2,500 = ₹ 73.494.

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Swap Deals

Swap contracts can be arranged across currencies. Such contracts are known as currency swaps and can help manage both interest rate and exchange rate risk. Many financial institutions count the arranging of swaps, both domestic and foreign currency, as an important line of business. This method is virtually cheaper than covering by way of forward options. Technically, a currency swap is an exchange of debt service obligations denominated in one currency for the service in an agreed upon principal amount of debt denominated in another currency. By swapping their future cash flow obligations, the counterparties are able to replace cash flows denominated in one currency with cash flows in a more desired currency.

A swap deal is a transaction in which the bank buys and sells the specified foreign currency simultaneously for different maturities. Thus a swap deal may involve:

(i) simultaneous purchase of spot and sale of forward or vice verse ; or

(ii) Simultaneous purchase and sale, both forward but for different maturities. For instance, the bank may buy one month forward and sell two months forward. Such a deal is known as forward swap.

A swap deal should fulfill the following conditions:

There should be simultaneous buying and selling of the same foreign currency of same value for different maturities; and

(i) The deal should have been concluded with the distinct understanding between the banks that it is a swap deal.

A swap deal is done in the market at a difference from the ordinary deals. In the ordinary deals the following factors enter into the rates:

(i) The difference between the buying and selling rates ; and

(ii) The forward margin, i.e., the premium or discount.

In a swap deal the first factor is ignored and both buying and selling are done at the same rate. Only the forward margin enters into the deal as the swap difference.

In a swap deal, both purchase and sale are done with the same bank and they constitute two legs of the same contract. In a swap deal, it does not really matter as to what is spot rate. What is important is the swap difference which determines the quantum of net receipt of payment for the bank as a result of the combined deal. But the spot rate decides the total value in rupees that either of the banks has to deploy till receipt of forward proceeds on the due date. Therefore, it

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is expected that the spot rate is the spot rate ruling in the market. Normally, the buying or selling rate is taken depending upon whether the spot side is respectively a sale or purchase to the market-maker. The practice is also to take the average of the buying and selling rates. However, it is of little consequence whether the purchase or selling or middle rate is taken as the spot rate

Need for Swap Deals

Some of the cases where swap deal may become necessary are described below:

(1) When the bank enters into a forward deal for a large amount with the customer and cannot find a suitable forward cover deal in the market, recourse to swap deal may become necessary.

(2) Swap may be needed when early delivery or extension of forward contracts is effected at the request of the customers. Please see chapter on Execution of Forward Contracts and Extension of Forward Contract.

(3) Swap may be carried out to adjust cash position in a currency. This explained later in the chapter on Exchange Dealings.

(4) Swap may also be carried out when the bank is overbought for certain maturities and oversold for certain other maturities in a currency.

Swap and Deposit/Investment

Let us suppose that the bank sells USD 10,000 three months forward, Instead of covering its position by a forward purchase, the bank may buy from the market spot dollar and kept the amount in deposit with a bank in New York. The deposit will be for a period of three months. On maturity, the deposit will be utilized to meet its forward sale commitment. Such a transaction is known as swap and deposit. The bank may resort to this method if the interest rate at New York is sufficiently higher than that prevailing in the local market. If instead of keeping the amount in deposit with a New York bank, in the above case, the spot dollar purchased is invested in some other securities the transaction is known as swap and investment.

Currency Arbitrage

Arbitrage traditionally has been defined as the purchase of assets or commodities on one market for immediate resale on another in order to profit from a price discrepancy. In recent years however arbitrage has been used to describe a broader range of activities. The concept of arbitrage is of particular importance in International finance because so many of the relationships between domestic and international financial Management, exchange rates, interest rates and inflation rates depend on arbitrage for their existence. In fact it is the process of arbitrage that ensures market efficiency.

The purchase of currencies on one market for immediate resale on another in order to profit from the exchange rate differential is known as currency arbitrage.

If perfect conditions prevail in the market, the exchange rate for a currency should be the same in all centers. Until recently, the pervasive practice among bank dealers was to quote all currencies against the US dollar when trading among them. Now, however, a growing percentage of currency trades dont involve the dollar. For example Swiss banks may quote the Euro against Swiss franc, and German banks may quote pound sterling in terms of Euros. Exchange traders are continually alert to the possibility of taking advantage, through currency arbitrage transactions, of exchange rate inconsistencies in different money centers. These transactions involve buying a currency in one market and selling it in another. Such activities tend to keep exchange rates uniform in the various Management.

For example, if US dollar is quoted at ₹ 42.4000 in Mumbai, it should be quoted at the same rate of ₹ 42.4000 at New York. But under imperfect conditions prevailing, the rates in different centers may be different. Thus at New York Indian rupees may be quoted at ₹ 42.4800 per dollar. In such a case, it would be advantageous for a bank in Mumbai to buy US dollars locally and arrange to sell them at New York. Assuming the operation to involve ₹ 10 lakhs, the profit made by the bank would be:

At Mumbai US dollars purchased for ₹ 10,00,000 at ₹ 42,4000 would be (10,00,000 ÷ 42.4000) USD 23,584.90.

Amount in rupees realized on selling USD 23,584.90 at New York at ₹ 42.4800 would be ₹ 10,01,887.

Therefore, the gross profit made by the bank on the transaction is ₹, 1,887. The net profit would be after deducting cable charges, etc., incurred for the transaction.

The purchase and sale of a foreign currency in different centers to take advantage of the rate differential is known as arbitrage operations.

When the arbitrage operation involves only two currencies, as in our illustration, it is known as simple or direct arbitrage.

Sometimes the rate differential may involve more than two currencies. For example, let us say that these rates are prevailing:

Mumbai on New York	₹ 42.4000
New York on London	USD 1.5100
Mumbai on London	₹ 64.0600

Based on quotation for dollar in Mumbai and for sterling in New York, the sterling rate in Mumbai should be ₹ 64,0250 while the prevailing rate is ₹ 64.0600. The bank can buy dollar locally and utilize it in New York to acquire sterling there. The sterling thus purchased may be disposed of locally. Let us say the transaction in undertaken for ₹ 10,00,000.

1. The bank buys dollars for ₹ 10,00,000 at Mumbai. Amount realized in dollars is (10,00,000 ÷ 42.4000) USD 23,584.90.

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2. The bank sells USD 23,584.90 at New York and acquires pound sterling. Amount realized in pound sterling at USD 1.5100 per pound is (23,584.90 ÷ 1.5100) GBP 15,619.14.
3. The bank sells GBP 15,619.14 at Bombay at ₹ 64.0600 and realizes ₹ 10,00,562.

Therefore, the gross profit on the combined transaction is ₹ 562.

Such an arbitrage operation which involves more than two currencies is known as compound or indirect arbitrage.

Currency arbitrage transactions also explain why such profitable opportunities are fleeting. In the process of taking advantage of an arbitrage opportunity the buying and selling of currencies tends to move rates in a manner that eliminates profit opportunity in the future. When profitable arbitrage opportunities disappear, we say that the no arbitrage condition holds.

Summary and Conclusions

In this chapter we have introduced the students the major transactions involved in foreign exchange transactions namely, the merchant transactions and inter bank transactions. In the process, we have explained the reader the determination of forward exchange contracts and the rules involved in the computation of forward exchange contracts. Also discussed is the various ways by which the banks try to cover the foreign exchange transactions viz., cover deals swap deals and arbitrage operations etc.

The students are advised to workout problems related to merchant transactions, forward exchange contracts and inter bank deals to get more insight in these transactions.

MODEL QUESTIONS:

1) Your forex dealer had entered into a cross-currency deal in the inter bank market and bought DEM 5, 00,000 against USD 1=DEM 1.5150for spot delivery. However, the market turned volatile and therefore he squared up his position by disposing of Deutschmarks against US dollars at the on-going market rates.

   Assuming Deutschmarks were quoted in the market as under:

   Spot USD 1= DEM 1.5250/5300 One month forward 1.5200/5250

   And if the spot USD 1=₹43.6300/6450 in the local inter bank market, what will be the gain or loss in the transaction?

   Your answer should be to the nearest rupee.

2) ABN-Amro Bank, Amsterdam wants to purchase 15 million rupees against US dollars for funding their Vostro account. Assuming the inter bank rates are 43.3625/3700, what would be the rate you would quote to the foreign bank? Ignore exchange margin, brokerage etc. If the deal is struck, what

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would be the US dollar amount that would be created to your Vostro account?

3) Your exchange dealer has an overnight oversold position in US dollars 3 million at ₹43.6400. The following deals were done by him on the next day:

Purchase	Rate	
Rupees		
USD 10, 00,000	@ 43.6450	
USD 15,	00,000	@ 43.65
USD 5,	00,000	@ 43.6375

Find out his position in dollars after these deals and his profit or loss. Ignore brokerage and telex charges.

4) You had booked a forward purchase TT covering an export bill for French francs 5, 00,000 at ₹6.40 due 25th April and covered yourself for same delivery in the local inter bank market at ₹ 6.42. However, on 25th March the exporter sought cancellation of the contract as tenor of the bill is changed.

Assuming the French francs were quoted against US dollars in London market is under:

Spot	USD1=FRF 5.6075/6125
One month forward	90/95
Two month forward	155/170
Three month forward	245/260

And in the local inter bank market US dollars were quoted as under:

Spot	USD1= ₹ 35.5825/5900
Spot / April	100/200
/May	300/400
/June	600/700

What will be the cancellation charges, if any, payable by the customer, bearing in mind that you require?

I. An exchange margin of 0.15%, and

II. A flat charge of ₹100?

5) On 2nd August an import customer of your bank requested you to book a forward contract for J. Yen50 million, when market was as under. Delivery required September.

USD/Re 35.3875/950	USD JPY 104.20/30
Spot/ August +3/+6	Spot/August 00/01
Spot/ September+5/+10	Spot/September00/03

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However, on 31st August customer wants to cancel the same contract.

Market on 31st August is as under:

USD/Re 35.3925/75 USD JPY 105.38/45

Calculate the amount to be recovered /paid to the customer on account of cancellation taking into account:

- 0.15% margin to be loaded, and
- Cancellation charges to be recovered as per FEDAI.

6) A customer comes to the bank with a draft for US dollar 10,000 drawn on the Bank. The Rupee/US dollar inter-bank rate is

   Spot USD 1= ₹ 37.70 37.80

   Calculate the exchange rate and the rupee equivalent payable to the customer.

   Rounding off as per FEDAI rules.

   Exchange margin to be loaded is 0.080%.

7) A customer has approached you to issue a demand draft on New York for USD 50,000. The ongoing market rate is:

USD1	=	₹ 37.70	37.75
One month forward	=	₹ 37.90	37.95

   Exchange margin to be loaded is 0.150%.

   Compute the rate to be quoted to the customer.

8) An exporter customer has presented 60 days sight documents for USD 1, 50,000 drawn under an irrevocable LC.

   The Rupee/USD rate in inter-bank market is as follows:

Spot USD 1 =	₹ 37.6050 37.7050
1 month forward = ₹	0.1500 0.1000
2 month forward = ₹	0.2800 0.2000
3 month forward =₹	0.4000 0.3200

   Transit period for the bill is twenty days. Exchange margin is 0.150%. Interest to be recovered is @ 13%. Calculate the rupee amount payable to the exporter.

9) What is meant by merchant rates? List some transactions involving merchant rates?
10) What are the modes of foreign exchange remittances?
11) What are the principal types of buying and selling rates? Discuss:
12) What do you understand by the term, –Option forward contract ? How does it differ from fixed forward contract?
13) Describe how forward rates are calculated:
    a) When the forward margin is at premium/discount
    b) For fixed forward and option forward contracts
14) Explain the circumstances under which a forward exchange contract can be cancelled by an authorized dealer?

UNIT 4 FOREX MANAGEMENT AND CURRENCY DERIVATIVES

Objectives

To give broader understanding of the FOREX and main issues of Forex Management. This unit gives students an understanding of the various Exchange Rates and Contracts in Exchange Market. The main objectives of this unit are:-

(i) To provide an overview of various exchange rates.

(ii) To analyse the principle types of merchant rates.

(iii) To analyse exchange contracts and execution of forward contracts (iv) To evaluate the role of interbank in exchange dealings.

Structure

1.0 INTRODUCTION

Foreign exchange refers to the mechanism by which the currency of one country gets converted into the currency of another country. The term foreign exchange, broadly speaking, includes bank deposits denominated in a foreign currency, foreign currency itself (bills and coins), and other short-term claims on foreigners expressed in foreign currency. For an Indian, foreign currency means any currency other than Indian currency, As per the Foreign Exchange Regulation Act of India, foreign exchange means foreign currency and includes (i) all deposits, credits and cheques,

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letters or credit and bills of exchange, expressed or drawn in Indian currency but payable in any foreign currency; and (ii) any instrument payable, at the option of the drawee or holder thereof or any other party thereto, either in Indian currency or in foreign currency or partly in one and partly in the other.

The Foreign Exchange Market is a market where money denominated in one currency is traded with money denominated in another currency. The need for such trading arises due to buying and selling of goods, services rendered to foreigners, investment in short-tem and long-term securities across the international boundaries, foreign bilateral and multilateral assistance, etc.

The primary function of the foreign exchange market is to facilitate trade between different countries and to enable investment being made by one country in another. Therefore a knowledge of foreign exchange market operations and mechanisms is necessary for any fundamental understanding of international financial management. This unit concentrate on the major issues of –FOREX MANAGEMENT , namely meaning and operations of Foreign Exchange Market, Forward Exchange and Spot Exchange Rate, Forward Exchange Contract and Execution, Dealing Position in Exchange Market, Interbank Dealings and Risk in Forex Dealings

1.1 MEANING OF FOREIGN EXCHANGE MARKET

In this section, we shall study about meaning of Foreign Exchange Market. The foreign exchange market is not confined to any given country or region. There is no physical place where the participants meet to execute the deals, as we see in the case of commodity Management or stock exchange market. It is more an informal arrangement among the banks an d brokers operating in a financial centre, purchasing and selling currencies connected to each other, by telecommunications like telex, telephone and a satellite communication network called SWIFT, which is an abbreviation for Worldwide Interbank Financial Telecommunications. Since it is a cooperative society, it is called SOCIETY FOR WORLDWIDE INTERBANK FINANCIAL TELECOMMUNICATIONS (SWIFT). This society is owned by about 250 banks in Europe and North America and registered as a cooperative society in Brussels, Belgium. It has got communication network at the international field, connecting more than 25,000 financial institutions throughout the world. Each Bank is allotted an identifier code. This system enables the member banks to transact among themselves very quickly and make international payments. Actually transmission of message takes only few seconds. In India, the regional processing centre is at Mumbai.

With improvements in telecommunication systems, the foreign exchange market in the world has witnessed phenomenal expansion during the last two decades. Transactions between Mumbai, New York, Tokyo, London and Bonn can be carried out in a few seconds. The Foreign Exchange Market is the largest

financial market with a daily turn over of around 2 trillion US Dollars. The wholesale segment of the market refers to the dealings taking place among the banks. The retail segment refers to the dealings between the banks and customers. The largest exchange market is London, followed by New York, Tokyo, Zurich and Franckfurt. In India, the leading foreign exchange market is Mumbai and Kolkatta, Chennai, Delhi and other centres for foreign exchange dealings. Recently, Bangalore, Cochin, Ahmedabad and Goa have also emerged as new centres of foreign exchange market.

1.2 MEANINGS OF RATE OF EXCHANGE

The term rate of exchange expresses the price of one currency in terms of another. Thus, it indicates the exchange ratio between the currencies of two countries. Suppose for example, one Indian Rupee is equal to 13 USA Cents. This implies that in the exchange market, one Indian Rupee will fetch 13 Cents. Just as the price of a commodity is determined by its demand and supply conditions, the price of a foreign currency (i.e., the rate of an exchange) is also determined on the basis of demand and supply of the currency. In fact, the rate of exchange of a currency will keep on changing in the foreign exchange market, due to changes in demand and supply conditions of the currency. In this section we shall study about exchange rate varies under different monetary standards.

Rate of Exchange Under the Gold Standard

Under the Gold Standard the monetary authorities are committed to a policy of converting gold into currency and currency into gold. This means, the buying and selling of fold at a specified fixed price in unlimited quantities will be allowed.

If two countries are on the Gold Standard, the rate of exchange between the two currencies concerned will be fixed on the basis of par value. This means that the monetary authorities would first establish gold value of the country's monetary unit. This is called par value of the currency, Buying and selling of gold will be allowed between the two countries. This will establish pars of exchange. The rate at which the currency units of one country will exchange for the currency units of the other, would depend upon the quantity and purity of gold represented by each. The ratio between the quantity of gold represented by the gold represented by the two units is termed as the mint par of exchange of mint parity. Mint par of exchange or mint parity is defined as the exact equivalent of the currency unit of one country expressed in terms of the currency unit of another based upon the weight and fineness of the metal contained in two coins according to the respective mint regulations. The mint par of exchange, hence expresses –the number of units of one currency which should legally contain the same amount of pure metal as does (legally) a given number of units of another currency.

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Rate of Exchange Under Managed Paper Standard

When the two countries are on inconvertible paper standard, there is no link with any metal, gold or silver. As such the rate of exchange is determined on the basis of demand and supply of foreign currencies. The exact rate of exchange is mainly influenced by their purchasing power parity. The Purchasing Power Parity. Theory is associated with Swedish economist Gustav Cassel. The theory states that where the exchange rate between two countries is free to move without limit, if tends to approximate to the point, where each currency will buy as many goods in the other country's market as in its own home market.

This can be briefly illustrated by means of an example. Suppose, a bale of cotton is sold for ₹500 in India (price in the home-market) and the same bale of cotton is sold for 10 dollars in USA's market, then the rate of exchange between Rupee and Dollar will be 50 Rupees for a Dollar, ignoring transport costs. This Purchasing Power Parity theory is defective in several respects: (a) Price in the home-market depends upon price level internally, which will be affected by the inflationary conditions in the economy. (b) Different types of goods enter into the international trade to find the rate of exchange will be impossible. (c) The theory wrongly assumed that changes in price level induce changes in the exchange rate. In fact, it is the exchange rate that influence the price level; and (d) The theory does not consider the demand for foreign exchange, reciprocal demand for commodities, capital movement, etc., which will affect the exchange rate.

Rate of Exchange Under Exchange Control

The term exchange control refers to the regulation of transactions involving foreign exchange to relieve pressure on the exchange value of a particular currency. The exchange control may take any form. In the most extreme form, it involves maintaining, for an indefinite period, an artificial value of the currency. This will be entrusted with the Central Banking authority, which will administer the exchange control legislations. In such a situation, the rate of exchange is not determined on the basis of demand and supply forces, but is fixed arbitrarily by the central authorities. To maintain that rate, all the citizens of the country are compelled to surrender foreign exchange to the Central Authorities at specified rates, and then the proceeds will be rationed among those who are in need of foreign exchange on the basis of priorities.

1.3 PARTICIPANTS IN FOREIGN EXCHANGE MARKET

The following are institutions participants in the Foreign Exchange market. (a) Corporates

(a) Commercial Banks

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(b) Exchange Brokers; and

(c) Central Banks.

Big business houses, International investors and Multinational Corporations may operate in the foreign exchange market, either for meeting their genuine trade requirements or investments or for purposes of speculation. They may buy or sell currencies, with a view to speculate with in the framework of foreign exchange regulations.

Commercial Banks are the major operators in the foreign exchange market. They buy and sell currencies on behalf of their customers. They can also operate on their own initiative. For transactions, involving large volumes, banks may deal directly among themselves. For smaller transactions, the help of exchange brokers may be sought. Exchange brokers also facilitate deal between banks. In India, many deal directly or through recognized exchange brokers. Accredited exchange brokers are permitted to contract exchange business on behalf of authorized dealers in foreign exchange and these exchange brokers will have to conform to the rates,. Rules and regulations and conditions laid down by the FEDAL.

Regarding Central Bank of a country, the intervention will be very rare in the foreign exchange market. The Central Bank will intervene just to influence the foreign exchange rate. In India, the Reserve Bank of India does not enter into the market in the ordinary course. When exchange rates are moving in a detrimental way, due to unprecedented speculative activities, the RBI may intervene in the market either directly or through the State bank of India.

1.4 QUOTATIONS IN THE INTERBANK MARKET

Generally, a dealer in the Interbank Market will not reveal whether he is going to buy or sell the foreign exchange. Hence, in the market the quotation made will be a two-way quotation. This means the market maker will indicate two prices. One price for buying the currency and the other price for selling the currency. For example a Mumbai bank may quote the rate of dollar as follows;

USD 1 = 49.1625/1750

What does this mean? The market maker is willing to buy foreign exchange US dollar at the rate of 49.1625 rupees; and he is willing to sell at the rate of 49.1750 rupees per dollar. In actual practice, while quoting, they will not give the whole number ₹49 as every operator will be knowing the big number. Hence the quotation will be as follows;

USD 1 = 1625/1750

From this, it is evident that the market maker wants to make a profit of ₹0.0125 in the deal of buying and selling one dollar. This quotation is a direct quotations, and the bank will apply the rule –Buy Low; Sell High .

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In indirect quotation the Mumbai market maker will quote the rate of dollars as follows:

₹100 = USD 2.0762/0767

In indirect quotation, the quantity of foreign currency is stated in terms of per unit of home currency. In this case the market maker will receive 2.0767 USD per ₹100/- while buying dollars and give away 2.0762 USD per ₹100/- while selling dollar. Therefore he will apply the principle in indirection quotation, Buy High; Sell Low.

The banker, while dealing with the customer will apply the same principle, as noted earlier, by adding exchange margin. The buying rate is generally known as bid rate; and the selling rate is known as the Offer rate. The difference between these two rates are the gross profit for the bank and is known as the Spread.

1.5 MEANING OF READY, SPOT AND FORWARD TRANSACTION

In the case of foreign exchange, there is the element of time between striking the deal and the transaction of the actual deal. The Transaction in the interbank market take for the settlement either (a) on the same day itself; or (b) it may take two days later; or (c) it may take a longer time, say after a month or two. Based on the nature of deal, the following are the three transactions are estimated.

Ready Transactions: In cases where the agreement to buy and sell the foreign exchange takes place and actual settlement is finished (i.e., delivery of foreign exchange and the receipt of the price, i.e., exchange transaction proper is completed on that day itself, it is called ready transaction. It is also known as Value today.

Spot Transactions: In some transactions, the deal will be struck; but the actual exchange of currencies will take place, say, after two days from the date of contract. This type of transaction is known as Spot Transaction. For example, if the contract for certain amount of foreign exchange is made on an agreed rate, say on Monday, the actual delivery, i.e., completion of transaction will take place on Wednesday. If that day happens to be a holiday, the delivery will take place on the very next day, i.e., Thursday, it is on this day, the contract is fulfilled by paying rupees and receiving dollars or vice versa.

Forward Transaction: On the other hand, the deal will be struck on a particular day, wherein rate will be agreed upon. But the actual transaction will take place at a specified future date. This is called Forward Transaction. The Forward Transaction may be for one month, two months or even three months. This means, the actual contract will take place on a particular day. This forward contract for delivery of currencies will take place after one month, two months or three months decided according to the contract.

1.6 MEANING AND FACTORS OF FORWARD MARGINS/SWAP POINTS

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Since the foreign exchange rate will be fluctuation, the spot rate of the currency will not be the same at a future date, i.e., after one month or so. If the forward rate and spot rate happen to be the same, then it is called at par. That is forward rate is at par with spot. This will be very rate in foreign exchange transactions, unless the currencies in question are steady and stable for a pretty long time. Generally the forward rate of a currency will be costlier or cheaper than spot rate. The difference between the spot rate and the forward rate is known as Forward Margin, otherwise called Swap Points. The forward margin may be either at premium or at discount. In the former case, the forward rate will be cheaper than the spot rate. Under direct quotation, premium is added to spot rate to arrive at the forward rate. This is done for both purchase and sale transaction. Discount is deducted from the spot rate to arrive at the forward rate.

Factors Determining Forward Margin

In this section, we shall briefly study about the factors that determine the forward margin.

Rate of Interest

The prevailing rate of interest at home and also in the foreign country from which we want to get foreign exchange decide the forward margin. To put it shortly, it depends upon the differences in the rate of interest prevailing at the home centre and the concerned foreign centre. If the rate of interest at the foreign centre is higher that the rate of interest prevailing at home centre, naturally, the interest gained by investing in the foreign centre will be more than the interest gained at home centre. If the rate of interest at the foreign centre is higher than the home centre, the forward margin would be at discount. Conversely if the rate of interest is lower in the foreign centre and higher in the home centre, the forward margin would be at premium.

Demand and Supply of Foreign Currency

This is similar to the principle of demand and supply of a commodity. If a particular foreign currency is in great demand than its supply, then, naturally, it will be costlier and it will be sold at a premium. If the supply exceeds the demand, the forward rate will be at a discount.

Investment Activities

Another factor influencing forward margin will be due to the hectic activities of investments, taking advantage of differences in the rate of interest between one centre and another. The investor may borrow from low interest centre and invest the amount in the high interest centre. For example, the investor may borrow at

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London at the rate of 5% p.a. and invest the amount in Chennai at 12% p.a. In order to secure his position, he may cover up his transaction in the forward marker. Then, he will sell spot pound-sterling and buy forward pound-sterling. When many investors do like this, the supply of spot Pound-Sterling increases abundantly putting down the price. The demand for forward pound-sterling increases, pushing up the price.

Speculative Activities Regarding Spot Rates

The forward rates are based on spot rates. Any speculation in the movement of spot rates would also influence forward rates. If exchange dealers anticipate spot rate to appreciate, they will quote forward rate at a premium. If they expect the spot rate to depreciate, the forward rate would be quoted at a discount.

Exchange Regulation

Exchange control regulations may also put restrictions or conditions on the forward dealing, leading to change in forward margin. Such restrictions may be with respect to keeping of balances abroad, borrowing overseas etc. If the Central Bank of the country intervenes in the forward market, this will influence forward margin.

1.7 FACTORS DETERMINING SPOT EXCHANGE RATES

The most vital factor in foreign exchange is the determination of spot exchange rate. It is on this, all other activities revolve. We know that forward margin is determined by adding premium or subtraction discount with reference to spot rate. The spot exchange rate is not determined by a single factor. It is the combination of several factors which act either concurrently or independently in determining the spot rate. Let us discuss about these factors.

Balance of Payments

A study of International Trade and Consequent Balance of Payments between countries will determine the value of the currencies concerned. We know that in international trade exports from a country, both visible and invisible represent the supply side of foreign exchange. On the contrary, imports into a country, both visible and invisible create demand for foreign exchange. Let us illustrate with an example. Suppose India is making lot of exports to USA (both visible and also invisible). The Indian exporters have to receive Rupee payment from USA and the importing merchants in USA would be offering lot of US dollars in exchange for rupees for payment to Indian merchants. Thus, there will be lot of supply of US dollars from the point of view of India and lost of demand for Indian rupees from the point of view of USA. Thus exports represent supply of Dollar demanding Rupees. When there is lot of supply of dollar, demanding rupees, the value of Rupee will automatically go up. On the other hand, if India imports more, we have

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to pay Dollars to USA merchants. This means, we will offer lot of Rupees, demanding Dollars. In that case, the value of Dollar will go up comparative to Rupees. In other words Put if differently, the exporters would offer foreign currencies in the exchange market, they have acquired, and demand local currency in exchange. Similarly, importers would offer local currency in exchange for foreign currency.

When a country is continuously importing more than what it exports to the other country, in the long run, the demand for the currency of the country importing would be lesser than its supply. This is an indication that the Balance of Payments of the country with reference to the other country is continuously at deficit. This will lead to decline of the value of the currency in relation to the other country. On the other hand if the balance of payments of a country is continuously at surplus, it is an indication that the demand for the currency in the market is higher than its supply and therefore the currency gains more value. Thus the value of the currency depends on balance of payment position.

Inflation in the Economy

Another important factor that would have serious effect on the value of currencies and the exchange rate is the level of inflation in the country. More inflation means increase in domestic prices of commodities. When commodities are priced at a higher level, exports would dwindle, as the price would not be competitive in the international market, and foreigners would not demand the commodities at a higher price. The decrease in the export, in the long run, would reduce the demand for the currency of the country and the external value of the currency would decline. Thus, if the country is under the grip of more inflation, the value of the currency will be low in the exchange market.

It should be understood in this context, that the value of the currencies concerned will depend on comparative inflationary rate in the two countries. Suppose the inflation in India is 20% and in USA also it 20%, the rate between dollar and rupee will remain the same. If inflation in India is higher than USA, the rupee will depreciate in value relative to dollar. Almost all countries of the world will be experiencing inflation to a greater or lesser degrees. The inflation is a very vital factor in deciding the value of the currency.

Interest Rates

The difference in interest rate between countries has great influence in the short term movement of capital between countries. If the interest rate in country A increases, that country would attract short term of founds from other countries. This will create demand for the currency of the country having higher rate of interest. Ultimately, this will lead to increase in its exchange value. Raising the interest rate may also be adopted by a country deliberately to attract foreign investments to easen tight money conditions. This will increase the value of the currency. This is

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also an attempt to reduce the outflow of the country's currency. But, this process may not sustain for long, if the other country also adopt similar measures of increasing the rate of interest. If country B also increases the interest rate like that of country A, there will be no change in the exchange rate and the effect of country A will be nullified

Money Supply

Money supply is also another factor affecting the rate of exchange between countries. As increased money supply will cause inflationary conditions in the economy and thereby affect the exchange rate via increase in price of exportable commodities. An increase in money supply should have scope for increasing production of goods in the economy. In other words, the increase in money supply should go hand-in-hand with increase in the production of goods in the economy. Otherwise, the increased money supply will be utilized in the purchase of foreign commodities and also making foreign investments. Thus the supply of the currency in the foreign market increases and the value declines. The downward pressure on the external value of the currency will in its turn increase the cost of imports and finally it adds to inflation in the economy.

Increase in National Income

Increase in national income of a country indicates an increase in the income of the residents of the country. This increase will naturally, create demand for goods in the country. If there is under-utilised productive capacity in the economy, this demand will lead to increase in production of goods. This will also lead to more export of goods. In some cases, this adjustment process will take a very long time; and in some other cases there will not be increased production at all. In such cases where the production does not increase in sympathy with income rise, it may lead to increased imports and also increased supply of the currency of the country in the foreign exchange market. This result is similar to that of inflation, i.e., decline in the value of the currency. Thus, increase in the national income may lead to increase in investment or in consumption and accordingly, it will have its effect on the exchange rate. Here also, this concept of increased national income is related to relative increase in national income between two countries and not the absolute increase in national income.

Discoveries of New Resources

A country in its progress of economic development, may also discover new resources which are very vital for the economy. These resources are called Key Resources or Basic Resources which would abundantly help the economy in the production of new goods and services and also in reducing the cost of production of existing goods and services. A country may discover Oil resources which are very vital for economic development.

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Capital Movements

Bright and congenial climate in a country combined with political stability will encourage portfolio investments in that country. In such cases, there will be very high demand for the currencies of those countries for purposes of movements. This higher demand will result in the increase of exchange rate of those currencies. On the other hand, poor economic outlook, instantly, repatriation of investments etc. will result in the decreased demand for the currencies of those countries and as a result the exchange rate of those currencies will fall.

Speculation and Psychological Factors

The speculation may take the form of bull, i.e., purchasing heavily expecting a rise in price; or it may take the form of bear, i.e., selling heavily expecting a fall in price. It may also take the form of leads and lags, i.e., changing the time of settlement of debts with a view to getting advantage of the change in exchange rates. Arbitrage operations are also undertaken by the speculations to take advantage of difference in two Management. This will cause movements in exchange rates in both Management till a level is reached.

Finally, political stability of the country is of very vital factor. Investors will not be interested in countries which are ravaged with frequent wars or political rebellion. Frequent election, frequent change of government, frequent changes of policies of the government, lack of political will on the part of government etc., will detract the investors, and the currency of the country may not enjoy high value.

1.8 PRINCIPLE TYPES OF READY MERCHANT RATES

The foreign exchange dealing of a bank with its customers is known as merchant business and the exchange rate at which the transaction takes place is the merchant rate. The merchant business in which the contract with the customer to buy or sell foreign exchange is agreed to and executed on the same day is known as ready transaction or cash transaction. As in the case of interbank transactions, a value next day contract is deliverable on the next business day and spot contract is deliverable on the second succeeding business day following the date of the contract. In this section we focus on principle types of buying as well as selling rates.

Principal Types of Buying Rates

In a purchase transaction the bank acquires foreign exchange from the customer and pays him in Indian rupees. Some of the purchase transactions result in the bank acquiring foreign exchange immediately, while some involve delay in the acquisition of foreign exchange. Depending upon the time of realization of foreign exchange by the bank, tow types of buying rates are quoted in India. They are:

(i) TT Buying Rate, and

(ii) Bill Buying Rate.

TT Buying Rate (TT Stands for Telegraphic Transfer)

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This is the rate applied when the transactions does not involve any delay in realization of the foreign exchange by the bank. In other words, the nostro account of the bank would already have been credited. The rate is calculated by deducting from the interbank buying rate the exchange margin as determined by the bank. Though the name implies telegraphic transfer, it is not necessary that the proceeds of the transaction are received by telegram. Any transaction where no delay is involved in the bank acquiring the foreign exchange will be done at the TT rate. Transactions where TT rate is applied are:

(i) Payment of demand drafts, mail transfers, telegraphic transfers, etc. drawn on the bank where bank's nostro account is already credited;

(ii) Foreign bills collected. When a foreign bill is taken for collection, the bank pays the exporter only when the importer pays for the bill and the bank's nostro account abroad is credited;

(iii) Cancellation of foreign exchange sold earlier.

Bill Buying Rate

This is the rate to be applied when a foreign bill is purchased. When a bill is purchased, the rupee equivalent of the bill value is paid to the exporter immediately. However, the proceeds will be realized by the bank after the bill is presented to the drawee at the overseas centre. In the case of a usance bill, the proceeds will be realized on the due date of the bill which includes the transit period and the usance period of the bill.

Principal Types of Selling Rates

When bank sells foreign exchange it receives Indian rupees from the customer and parts with foreign currency. The sale is effected by issuing a payment instrument on the correspondent bank with which it maintains the nostro account. Immediately on sale, the bank buys the requisite foreign exchange from the market and gets its nostro account credited with the amount so that when the payment instrument issued by it is presented to the correspondent bank and it can be honoured by debit to the nostro account. Therefore, for all sales on ready/spot basis to the customer, the bank resorts to the interbank market immediately and the base rate is the interbank spot selling rate. However, depending upon the work involved, viz., whether the safe involves handling of documents by the bank or not, two types of selling rates are quoted in India. They are:

(i) TT selling rate; and

(ii) Bills selling rate.

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TT Selling Rate

This is the rate to be used for all transactions that do not involve handling of documents by the bank. Transactions for which this rate is quoted are:

(i) Issue of demand drafts, mail transfers, telegraphic transfers, etc., other than for retirement of an import bill; and

(ii) Cancellation of foreign exchange purchased earlier.

The TT selling rate is calculated on the basis of Interbank selling rate. The rate to the customer is calculated by adding exchange margin to the interbank rate.

Bills Selling Rate

This rate is to be used for all transactions which involve handling of documents by the bank: for example, payment against import bills. The bills selling rate is calculated by adding exchange margin to the TT selling rate. That means the exchange margin enters into the bills selling rate twice, once on the interbank rate and again on the TT selling rate.

1.9 READY RATES BASED ON CROSS RATES

In this section we shall first examine how exchange rates are quoted in international Management and then we shall see how these rates are used for quoting rates for currencies other than US dollar in India.

Exchange Quotations in International Management

In international Management, barring few exceptions, all rates are quoted in terms of US dollar. For instance, at Singapore Sweets may be quoted at 1.5425/5440 and Japanese Yen at 104.67/70. This should be understood as:

USD 1 = CHF 1.5425 - 1.5440

USD 1 = JPY 104.67 – 104.70

In interpreting an international market quotation, we may approach from either the variable currency or the base currency, viz., the dollar. For instance, we may take a transaction in which Swiss francs are received in exchange for dollars as: (a) purchase of Swiss francs against Dollar or (b) sale of Dollar against Swiss francs. For the sake of uniformity we will assume the base currency as the currency being bought of sold.

The quotation for Swiss franc is CHF 1.5425 and CHF 1.5440 per Dollar. While buying dollar the quoting bank would part with fewer francs per dollar and while selling dollars would require as many francs as possible. Thus, CHF 1.5425 is the dollar buying rate and DEM 1.5440 is the dollar selling rate. It may be observed that when viewed from dollar, the exchange quotation partakes the character of a direct quotation and the maxim Buy low; Sell high is applicable. We

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will denote such rates as Dollar/Foreign Currency Rates, implying that dollar is being bought or sold against foreign currency.

Few currencies such as pound-sterling and Euro are quoted in variable units of US dollar. They are quoted as so many US dollars per unit of foreign currency concerned. Examples are:

GBP 1 = USD 1.4326/4348

EUR 1 = USD 0.9525/9548

The base currency here is the foreign currency. Taking Euro as example, the quoting bank will buy that currency at USD 0.9525 and sell at USD 0.9548. We will indicate such quotation as Foreign Currency/Dollar Rate, the quotation being for purchase or sale of foreign currency against dollars.

Cross Rates and Chain Rule

Let us now see how exchange rates are calculated in India based on quotations in international Management.

In India, buying rates are calculated on the assumption that the foreign exchange acquired is disposed of abroad in the international market and the proceeds realized in US dollars. The US dollars thus acquired would be sold in the local interbank market to realize the rupee. For example, if the bank purchased a CHF 10,000 bill it is assumed that it will sell the Swiss francs at the Singapore market and acquire US dollars there. The US dollars are then sold in the interbank market against Indian rupee.

The bank would get the rate for US dollars in terms of Indian rupees in India. This would be the interbank rate for US dollars. It would also get the rate for US dollars in terms of Swiss francs at the Singapore market. The bank has to quote the rate to the customer for Swiss franc in terms of Indian rupees.

The fixing of rate of exchange between the foreign currency and Indian rupee through the medium of some other currency is done by a method known as Chain Rule. The rate thus obtained is the cross rate between these currencies.

1.10 FORWARD EXCHANGE CONTRACT

Forward exchange contract is a device which can afford adequate protection to an importer or an exporter against exchange risk. Under a forward exchange contract a banker and a customer or another banker enter into a contract to buy or sell a fixed amount of foreign currency on a specified future date as a predetermined rate of exchange. Our exporter, for instance, instead of groping in the dark or making a wild guess about what the future rate would be, enters into a contract with his banker immediately. He agrees to sell foreign exchange of specified amount and currency at a specified future date. The banker on his part agrees to

buy this at a specified rate of exchange. The exporter is thus assured of his price in the local currency. In our example, the exporter may enter into a forward contract with the bank for 3 months delivery at ₹49.50. This rate, as on the date of contract, is known as 3 months forward rate. When the exporter submits his bill under the contract, the banker would purchase it at the rate of ₹49.50 irrespective of the spot rate then prevailing.

Date of Delivery

According to Rule 7 of FEDAI, a forward contract is deliverable at a future date, duration of the contract being computed from the spot value date of the transactions. Thus the 3 months forward contract is booked on 12th February, the period of two months should commence from 14th February and the forward contract will fall due on 14th April.

Date of delivery under forward contract will be:

(i) In case of bills/documents negotiated purchased or discounted: date of negotiations/purchase/discount and payment of rupees of customers.

(ii) In case of bills/document sent for collection: date of payment of rupees to the customer on realisation.

(iii) In case of retirement/crystallization of import bills/documents: the date of retirement or crystallization of liability which ever is earlier,

Fixed and Options Forward Contracts

The forward contract under which the delivery of foreign exchange should take place on a specified future date is known as fixed forward contract. For instance, if on 5th March a customer enters into a three months forward contract with his bank to sell GBP 10,000, it means the customer would be presenting a bill or any other instrument on 7th June to the bank for GBP 10,000. He cannot deliver foreign exchange prior to or later than the determined date.

We saw that forward exchange to a device by which the customer tries to cover the exchange risk. The purpose will be defeated if he is unable to deliver foreign exchange exactly on the due date. In real situation, if is not possible for any exporter to determine in advance the precise date on which he will be tendering export documents. Besides internal factors relating to production, many other external factors also decide the date on which he is able to complete shipment and present documents to the bank. At the most, the exporter can only estimate the probable date around which he would be able to complete his commitment.

With a view to eliminating the difficulty in fixing the exact date for delivery of foreign exchange, the customer may be given a choice of delivering the foreign exchange during a given period of days. An arrangement whereby the customer can sell or buy from the bank foreign exchange on any day during a given period of time at a predetermined rate of exchange is known as Option Forward Contract.

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The rate of which the deal takes place is the option forward rate. For example, on 15th September a customer enters into two months forward sale contract with the bank with option over November. It means the customer can sell foreign exchange to the bank on any day between 1st November and 30th November. The period from 1st to 30th November is known as the Option Period.

Exchange Control Regulations

While booking forward contracts for customers, banks are required to observe that the exchange control regulations are complied with. Foreign Exchange Management (Foreign Exchange Derivative Contracts) Regulations, 2000 govern forward exchange contract in India. The terms and conditions relate to booking, cancellation, rebooking etc. of forward exchange contracts are given below:

(a) The authorized dealer, through verification of documentary evidence, should be satisfied about the genuineness of the underlying exposure.

(b) The maturity of the hedge should not exceed the maturity of the underlying transaction.

(c) The currency of hedge and tenor are left to the choice of the customer.

(d) Where the exact amount of the underlying transaction is not ascertainable the contract can be booked on the basis of the reasonable estimate.

(e) Foreign currency loans/bonds will be eligible for hedge only after final approval is accorded by the Reserve bank, where such approval is necessary.

(f) In case of Global Depository Receipts (GDRs), the issue price should have been finalized.

(g) Substitution of contracts for hedging trade transactions may be permitted by an authorized dealer on being satisfied with the circumstances under which such substitution has become necessary.

The operational aspects of the Forward Contract conditions are given below:

1. Forward contracts can be booked for resident customers who are exposed to exchange risk in respect of genuine transactions permitted under current regulations.
2. Before entering into a forward contract, it should be ensured that the customer is in fact, exposed to exchange risk in a permitted currency in the underlying transaction. The choice of the currency in which the forward contract is entered into is left to the customer.
3. While booking forward contracts, irrespective of the underlying transaction being a current account transaction or a capital account transaction, the bank should verify suitable documents to ensure the authenticity and the amount of the permitted currency of the underlying transaction.

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4. Forward contacts may be booked for exporters/importers, without production of documents, up to the average of past three years export/ import turnover. However, at any point of time, the outstanding contracts shall not exceed 25% of eligible limit, subject to a cap of USD 100 million.
5. Forward contract may be booked for the whole or part amount of the underlying transaction. Ordinarily the maturity of the forward contract should match that of the underlying transaction.
6. The bank may permit the customer to substitute an import/export order under a forward contract provided it is satisfied after verifying the documentary evidence that a genuine exposure to the extent of the amount of the original forward contract subsists under the substituted order.

Booking of Forward Contracts

1. The transactions of booking of forward contract is initiated with the customer enquiring of his bank the rate at which the required forward currency is available. Before quoting a rate the bank should get details about (i) the currency, (ii) the period of forward cover, including the particulars of option, and (iii) the nature and tenor of the instrument.
2. The branch may not be fed with forward rates of all currencies by the Dealing Room. Even for major currencies forward rates for standard delivery periods may only to available at the branch.
3. If the rate quoted by the bank is acceptable to the customer, he is required to submit an application to the bank along with documentary evidence to support the application, such as the sale contract.
4. After verification of the application and the documentary evidence submitted, the bank prepares a Forward Exchange Contract.
5. While preparing the contract, the following points are to be noted:
   (a) The branch may give a serial number to the contract, so that further reference to if becomes easy.
   (b) Contracts must state the first and last dates of delivery. It is not permissible to state in contracts delivery one week or delivery one month or delivery three months forward, etc.
   (c) When more than one rate for bills with different delivers are mentioned, the contract must state the amount and delivery against each rate.
   (d) No usance option may be stated in any contract for the purchase of bills. That is, the contract should not give option to the customer to tender sight bill or in the alternative 30 days bill, etc. It can be either sight bill or a usance bill of a specified usance as mentioned in the contract.

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(e) The first portion of the contract is relevant for booking of the contract. The second portion is used for recording deliveries under the contract.

(f) The contract should be complete in all respects.

6. The number of copies of the contract prepared will depend upon the requirements of the bank. The original of the contract duly signed by the bank, along with the duplicate, is sent to the customer.
7. The details of the contract are entered are entered in a Forward Contract Register. The resister also provides for recording of details of documentary evidence verified.
8. The documents are verified and marked with the bank stamp and signature of the bank official, after entering the particulars of the forward contract booked. It is returned to the customer.
9. The due date of the contract should be diarised in a regular and followed up on the due date.
10. Charges for booking the forward contract as prescribed by the bank concerned is recovered from the customer.
11. When the customer delivers foreign exchange on the due date, the transactions is done at the rate agreed.

Calculation of Fixed Forward Rates

The method of calculation of forward rates is similar to that for ready rates. The only difference is that in the case of forward rates, the forward margin that is included in the rate will be for forward period as well. That is, the forward discount of the forward premium included in the buying rate will be not only for the transit period and usance, but also for the forward period. For instance, if the bank buys a 30 days sight bill for 2 months forward, the total forward discount will be for (30 days usance + 25 days transit +2 months forward, rounded off to higher month) 4 months.

For selling rates, forward margin is not considered while calculating ready rates. In the case of forward rates, the forward margin for the forward period will be included. In other respects, the calculation is same as that of ready rates.

The method of calculation of forward rates is shown below. For TT buying rate, forward margin will be included only for forward period.

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Format for Calculation of Forward buying rate for Dollar

Dollar/Rupee market spot buying rate	=Rs. ….
Add : Forward premium (for forward period, transit Period and usance period: rounded off to lower Month)	
OR	
Less : Forward discount (for forward period, transit Period and usance period: rounded off to higher Month)	± Rs. ….
Less : Exchange Margin	= Rs. ….
Forward buying rate for dollar	- Rs. ….
*Rounded off to nearest multiple of 0.0025.	= Rs. …. ….(1)

Format for Calculation of Forward Selling Rate

Dollar/Rupee market spot selling rate	= Rs. ….	
Add : Forward premium (for forward period)		
OR		
Less : Forward discount (for forward period)	± Rs. ….	
	= Rs. ….	
Add : Exchange Margin to TT selling rate	+ Rs. ….	
Forward TT selling rate for dollar	= Rs. ….*	..(1)
Add : Exchange margin for selling rate	+ Rs. ….	
Forward bills selling rate for dollar	= Rs. ….*	..(2)
*Rounded off to measure multiple of 0.0025 when quoted to customer		

Calculation option forward rates

Under an option forward contract the customer has the freedom to deliver the foreign exchange on any day during the option period. The bank should quote a single exchange rate valid for the entire option period.

Suppose that the following rates prevail for US dollar on 17th February:

	Buying	Selling
	₹	₹
Spot	49.45	49.50
Spot/March	0.05	0.06 pm

Spot/April	0.08	0.09 pm
Spot/May	0.11	0.19 pm

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(a) In respect of purchase transaction, the forward premium for delivery, March is 5 paise and for delivery April is 9 paise. The additional premium of 3 paise for April over that for March represent the interest differential for one month. If a customer requires forward purchase rate for fixed delivery 30th April, the bank would concede him the premium up to April end, and quote him the rate of ₹49.53 per dollar. On the other hand, if the customer wants to deliver foreign exchange on first April, he is not entitled to the premium for April. The forward premium for April beginning would be the same as that for March end. The bank will therefore quote him a rate of ₹49.50, inclusive of premium up to March. Suppose the customer requires the bank to book a forward purchase contract delivery April. It means, the customer can deliver foreign exchange on any day during April, i.e., 1st April to 30th April, but the bank should quote a single rate which could be applicable to any of these days. The bank would play safe and quote the rate of ₹49.50 (i.e., the rate for March) for an option forward contract with option to the customer over the entire April.

(b) It may be argued on behalf of the customer that the option forward rate quoted to him is based on the interbank option forward rate. The bank would cover itself by entering into a forward sale with the marker with option to delivery 1st to 30th April, in which case the premium of 8 paise is available to it.

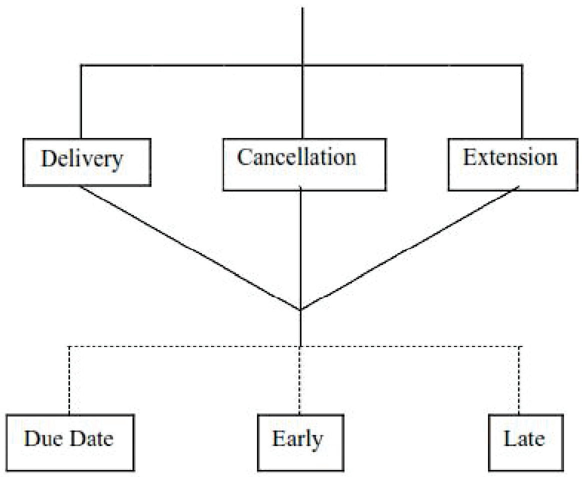
1.11 EXECUTION OF FORWARD CONTRACT

The foreign exchange may be delivered on the due date as per the forward contract. Or, the delivery may take place earlier of later than the due date. Alternatively, the customer may request cancellation of the contract. This request for cancellation may be made on the due date, before the due date or later than the due date. Yet another alternative is that the customer may request postponement of the date of delivery under the forward contract, This request for postponement may be made on the due date, earlier than the due date or after the due date.

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The various possibilities are summarized in the form of a chart below:

FORWARD CONTRACT



From chart it is clear that a forward contract may end up in any of the following ways:

1. Delivery on the due date.
2. Early delivery.
3. Late delivery.
4. Cancellation on the due date.
5. Early cancellation.
6. Late cancellation.
7. Extension on the due date.
8. Early extension.
9. Late extension.

Rule 8 of FEDAI governing this subject stipulates that the request for delivery, cancellation or extension of the forward contract should be made by the customer on or before its maturity date. A forward contract which remains unutilized after the due date becomes an overdue contract. This section deals with delivery on or before the due date.

Delivery on Due Date

This is the situation envisaged when the forward contract was entered into. When the foreign exchange is delivered on the due date, the rate applied for the transaction would be the rate originally agreed, irrespective of the spot rate prevailing. The following example and solution may explain the practice of delivery on due date contract.

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Example: The bank has entered into a contract of forward purchase of Swiss Francs 10,000 with a customer at the rate of ₹32,5000. On the due date, the spot rate of ₹32,7600/8200. State the amount that will be credited to the account of the customer on purchase of the bill.

Solution: The bank would apply the rate of ₹32,5000 as originally agreed for purchase of the bill. The amount credited to the account would be ₹3,25,000.

Example: On 1st March, the bank enters into a forward contract for 2 months for selling USD at ₹46,6600. On 1st May, the contract is put through in retirement of a bill for USD 1,000 drawn on the customer. On this date, the sopt rates are ₹49,3100/5600. Calculate the amount that would be debited to the account of the customer.

Solution: The bank would apply the rate originally agreed upon, i.e., ₹46,6600 and debit the account of the customer with ₹48,660.

Early Delivery

When a customer requests early delivery of a forward contract, i.e., delivery before its due date, the bank may accede to the request provided the customer agrees to bear the loss, if any, that may accrue to the bank.

When the bank entered into a forward sale contract with a customer, it would have covered its position by entering into a forward purchase contract with the market for the same amount and for a matching period. For example, suppose the bank has agreed on 1st April to sell USD 10,000 to the customer delivery June at the rate of ₹49,1400. Theoretically, on the same day, i.e., on 1st April, a forward purchase would be made by the bank with the market for USD 10,000 due June. The idea is that during June when the contract matures, the bank can realize the purchase contract and sell it to the customer. Suppose further that the customer requests that the contract be executed on 1St May itself, the Bank would execute the contract at the original rate agreed upon. Viz., ₹49,1400 and recover separately any loss that it may suffer. Let us study how the loss is computed.

On 1st May the bank can sell US dollars to the customer by buying it from the market at the spot rate prevailing. But the bank has already entered into a forward purchase contract with the market due June and it has to meet its commitment. Therefore, on 1st May, the bank would enter into another forward sale contract with the market due June and thus be able to dispose of the US dollars when received under the forward purchase contract.

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The various operations involved may be summarized thus:

	With Customer	With Market
1st April	(a) Sell forward due June	(b) Buy Forward due June
1st May	(c) Sell in execution of (a)	(d) Buy spot to accomplish (c) (e) Sell Forward due June, to dispose of the process of (b)
1st June		(f) Receive delivery under (b) (g) Deliver proceeds of (f) in execution of (e)

On 1st May, the bank makes a spot purchase and forward sale of the same currency for the same value. The difference between the rate at which the currency is purchased and sold in a swap deal is the swap difference.

The swap difference may be a swap loss or swap gain depending upon the rates prevailing in the market. If the bank buys high and sells low, the differences is swap loss recoverable from the customer. If the bank buys low and sells high, the difference is the swap gain payable to the customer.

On 1st May, the bank receives rupees from the customer on sale of foreign exchange to him. It pays rupees to the market for the spot purchase made. If he amount paid exceeds the amount received, the difference represents outlay of funds. Interest on outlay of funds is recoverable from the customer from the date of early delivery to the original due date at a rate not lower than the prime lending rate of the bank concerned.

If the amount received exceeds the amount paid, the difference represents inflow of funds. At its discretion, the bank may pay interest to the customer on inflow of funds at the appropriate rate applicable for term deposits for the period for which the funds remained with it.

Charges for early delivery will comprise of:

(a) Swap difference:
(b) Interest on outlay of funds: and

In addition, at its discretion, the bank may levy some processing charges.

1.12 CANCELLATION AND EXTENSION OF FORWARD CONTRACT

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The customer may approach the bank for cancellation when the underlying transactions becomes infructrious, or for any other reason he wishes not to execute the forward contract. If the underlying transaction is likely to take place on the day subsequent to the maturity of the forward contract already booked, he may seek extension in the due date of the contract. Such requests for cancellation or extension can be made by the customer on or before the maturity of the forward contract.

Cancellation on Due Date

When the forward purchase contract is cancelled on the due date, it is taken that the bank purchases at the rate originally agreed and sells the same back to the customer at the ready TT rate. The difference between these two rates is recovered from/paid to the customer. If the purchase rate under the original forward contract is higher than the ready TT selling rate, the difference is payable to the customer. If it is lower, the difference is recoverable from the customer. The amounts involved in purchase and sale of foreign currency are not passed through the customer's account, only the difference is recovered/paid by way of debit/credit to the customer's account. In the same way, when a forward sale contract is cancelled it is treated as if the bank sells at the rate originally agreed and buys back at the ready

T.T. buying rate. The difference between these two rates is recovered from/ paid to the customer.

Early Cancellation

If a forward purchase contract is required to be cancelled by the customer earlier than the due date it would be cancelled at the forward selling rate prevailing on the date of cancellation, the due date of this sale contract to synchronise with the due date of the original forward purchase contract. For example, assume that on 12th September a three months forward purchase contract is entered into with a customer for USD 10,000. The due date of the contract is 12th December. On 12th November, the customer comes to the bank and requires cancellation of the forward contract. The contract will be cancelled by the bank selling back to the customer USD 10,000 at its Forward TT selling rate for one month. The difference between the rate under the original forward purchase contract and forward TT selling rate applied on the date of cancellation is payable/receivable by the customer. If a forward sale contract is cancelled earlier than the due date, the cancellation would be done at the forward purchase rate prevailing on that date with due date to fall on the due date of the original forward sale contract.

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Extension on Due Date

An exporter finds that he is not able to export on the due date but expects to do so in about two months. An importer is unable to pay on the due date but is confident of making payment a month later. In both these cases, they may approach their bank with which they have entered into forward contracts to postpone the due date of the contract. Such postponement of the date of delivery under a forward contract is known as the extension of forward contract. When a forward contract is sought to be extended. It shall be cancelled and rebooked for the new delivery period at the prevailing exchange rates. FEDAI has clarified that it would not be necessary to load exchange margins when both the cancellation and re-booking of forward contracts are undertaken simultaneously. However, it is observed that banks do include margin for cancellation and rebooking as in any other case.

Early Extension

When the request for extension is received earlier to the due date, it would be cancelled at the relevant forward rate (as in the case of cancellation) and rebooked at the current rate.

Overdue Forward Contracts

The customer has the right to utilise or cancel or extend the forward contract on or before its due date. No such right exists after the expiry of the contract.

FEDAI Rule 8 provides that a forward contract which remains overdue without any instructions form the customer concerned on or before the due date, shall on the 15th day from the date of maturity be automatically cancelled by the bank. The customer remains liable for the exchange difference arising therefrom, but if it results in profit it need not be passed on to the customer. In case of delivery subsequent to automatic cancellation, the appropriate current rate prevailing on such delivery shall be applied.

1.13 EXCHANGE DEALINGS

When the foreign currency denominated assets and liabilities are held, by the banks or the business concern, two types of risks are faced. Firstly, the risk that the exchange rates may vary and the change may affect the cash flows/profits. This is known as exchange risk. Secondly, the interest rate may vary and it may affect the cost of holding the foreign currency assets and liabilities. This is known as interest rate risk. The present section discusses exchange risk management by banks.

Dealing Position

Foreign exchange is such a sensitive commodity and subject to wide fluctuations in price that the bank which deals in it would like to keep the balance always near zero, The bank would endeavour to find a suitable buyer wherever it purchase so

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as to dispose of the foreign exchange acquired and be free from exchange risk. Likewise, whenever it sells it tries to cover its position by a corresponding purchase. But, in practice, it is not possible to march purchase and sale for each transaction. So the bank tries to match the total purchases of the day to the day's total sales. This is done for each foreign currency separately.

If the amount of sales and purchases of a particular foreign currency is equal, the position of the bank in that currency is said to be square. If the purchases exceed sales, then the bank is said to be in overbought or long position. If the sales exceed purchases, then the bank is said to be in oversold of short position. The bank's endeavour would be to keep its position square. If it is in overbought or oversold position, it is exposing itself to exchange risk.

There are tow aspects of maintenance of dealing positions. One is the total of purchase or sale or commitment of the bank to purchase or sell, irrespective of the fact whether actual delivery has taken place or not. This is known as the exchange position. The other is the actual balance in the bank's account with its correspondent abroad, as a result of the purchase or sale made by the bank. This is known as the cash position.

Exchange Position

Exchange position is the new balance of the aggregate purchases and sales made by the bank in particular currency. This is thus an overall position of the bank in a particular currency. All purchases and sales whether spot or forward are included in computing the exchange position. All transactions for, which the bank has agreed for a firm rate with the counterparty are entered into the exchange position when this commitment is made. Therefore, in the case of forward contracts, they will enter into the exchange position on the date the contract with the customer is concluded. The actual date of delivery is not considered here. All purchases add to the balance and all sales reduce the balance.

The exchange position is worked out every day so as to ascertain the position of the bank in that particular currency. Based on the position arrived at, remedial measures as are needed may be taken. For example, if the bank finds that it is oversold to the extent of USD 25,000. It may arrange to buy this amount from the interbank market. Whether this purchase will be spot or forward will depend upon the cash position. If the bank has commitment of deliver foreign exchange soon, but it has no sufficient balance in the nostro account abroad, it may purchase spot. If the bank has no immediate requirement of foreign exchange, it may buy it forward.

Examples of sources for the bank for purchase of foreign currency are:

(i) Payment of DD, MT, TT, travellers cheques, etc.

(ii) Purchase of bills,

(iii) Purchase of other instruments like cheques.

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(iv) Forward purchase contracts (entered to the postion of the date of contracts).
(v) Realisation of bills sent for collection.
(vi) Purchase in interbank/international Management.

Examples of avenues of sale are:

(i) Issue of DD, MT, TT, travelers cheques, etc.
(ii) Payments of bills drawn on customers.
(iii) Forward sale contract (entered in the position on the date of contracts).
(iv) Sale to interbank/international Management.

Exchange position is also k now as dealing position.

Cash Position

Cash position is the balance outstanding in the bank's nostro account abroad. The stock of foreign currency is held by the bank in the form of balances with correspondent bank in the foreign centre concerned. All foreign exchange dealings of the bank are routed through these nostro accounts. For example, an

Indian bank will have an account with Bank of America in New York. If the bank is requested to issue a demand draft in Us dollars. It will issue the draft on Bank of America, New York. On presentation at New York the bank's account with Bank of America will be debited. Likewise, when the bank purchase a bill in US dollars, it will be sent for collection to Bank of America. Alternatively, the bill may be sent to another bank in the USA, with instructions to remit proceeds of the bill are credited, on realisation, to the bank's account with Bank of America. The purchase of foreign exchange by the bank in India increases the balance and sale of foreign exchange reduces the balance in the bank's account with its correspondent bank abroad.

1.14 INTERBANK DEALS

Interbank deals refer to purchase and sale of foreign exchange between the banks. In other words it refers to the foreign exchange dealings of a bank in the interbank market. The main features of interbank deals are given in this section.

Cover Deals

Purchase and sale of foreign currency in the market undertaken to acquire or dispose of foreign exchange required or acquired as a consequence of the dealings with its customers is known as the cover deal. The purpose of cover deal is to insure the bank against my fluctuation in the exchange rates.

Since the foreign currency is a peculiar commodity with wide fluctuations in price, the bank would like to sell immediately whatever it purchases and whenever it sells it goes to the market and makes an immediate purchase to meet its

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commitment. In other words, the bank would like to keep its stock of foreign exchange near zero. The main reason for this is that the bank wants to reduce the exchange risk it faces to the minimum. Otherwise, any adverse change in the rates would affect its profits.

Trading

Trading refers to purchase and sale of foreign exchange in the market other than to cover bank's transactions with the customers. The purpose may be to gain on the expected changes in exchange rates.

Funding of Nostro Account

Funding of nostro account of the bank is done by realization of foreign exchange in the relevant currency purchased by the bank. If sales exceed purchase to avoid overdraft in the nostro account, the bank would purchase the requisite foreign exchange in the interbank market and arrange for its credit to the nostro account

Some of the foreign banks who maintain nostro accounts with the bank may fund the account by arranging remittance through some other bank. Or the foreign bank concerned may request the Indian Bank to credit its rupee account and in compensation credit the account of the Indian bank with it. When required to quote a rate for this transaction, the bank in India, would quote the rate at which it could dispose of the foreign exchange in India, viz., the market buying rate. Exchange margin may not be taken for such transactions.

Swap Deals

A swap deal is a transaction in which the bank buys and sells the specified foreign currency simultaneously for different maturities. Thus a swap deal may involve:

(i) Simultaneously purchase of spot and sage of forward or vice versa; or

(ii) Simultaneously purchase and sale, both forward but for different maturities, For Instance, the bank may buy one month forward and sell two months forward. Such a deal is known as forward to forward swap

To be precise, a deal should fulfil the following conditions to be called a swap deal:

(i) There should be simultaneous buying and selling of the same foreign currency of same value for different maturities; and

(ii) The deal should have been concluded with the distinct understanding between the banks that it is a swap deal.

A swap deal is done in the market at a difference form the ordinary deals. In the ordinary deals, the following factors enter into the rates;

(i) The difference between the buying and selling rates; and

(ii) The forward margin. i.e., the premium or discount.

In a swap deal, the first factor is ignored and both buying and selling are done at the snow rate. Only the forward margin enters into the deal same as the swap difference.

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Arbitrage Operations

If perfect conditions prevail in the market, the exchange rate for a currency should be the same in all centres. For example, if US dollar is quoted at ₹49,4000 in Mumbai, it should be quoted at the same rate of ₹ 49,4000 at New York. But under imperfect conditions prevailing, the rates in different centres may be different. Thus at New York Indian rupees may be quoted at ₹49,4800 per dollar. In such a case, it would be advantageous for a bank in Mumbai to buy US dollars locally and arranged to sell them in New York. Assuming the operations to involve ₹10 lakhs the profit made by the bank would be:

At Mumbai US dollars purchased for ₹10,00,000 at ₹49,4000 would be (10,00,000 ÷ 49,4000) USD 20,242.9). Amount in rupees realized on selling USD 20,242.91 at New York at ₹49.4800 would be ₹10,0,.619. Therefore, the gross profit made by the bank on the transactions is ₹1,619. The new profit would be after deducting cable charges, etc., incurred for the transactions. The purchase and sale of a foreign currency in different centres to take advantage of the rate differential is known as arbitrage operations. When the arbitrage operations involves only two currencies, as in our illustrations, it is known as simple or direct arbitrage.

1.15 FOREX RISK MANAGEMENT

The following are the major risks in foreign exchange dealings

(a) Open Position Risk
(b) Cash Balance Risk
(c) Maturity Mismatches Risk
(d) Credit Risk
(e) Country Risk
(f) Overtrading Risk
(g) Fraud Risk, and
(h) Operational Risks

Open Position Risk

The open position risk or the position risk refers to the risk of change in exchange rates affecting the overbought or oversold position in foreign currency held by a bank. Hence, this can also be called the rate risk. The risk can be avoided by keeping the position in foreign exchange square. The open position in a foreign currency becomes inevitable for the following reasons:

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(a) The dealing room may not obtain reports of all purchases of foreign currencies made by branches on the same day.

(b) The imbalance may be because the bank is not able to carry out the cover operation in the interbank market.

(c) Sometimes the imbalance is deliberate. The dealer may foresee that the foreign currency concerned may strengthen.

Cash Balance Risk

Cash balance refers to actual balances maintained in the nostro accounts at the end-of each day. Balances in nostro accounts do not earn interest: while any overdraft involves payment of interest. The endeavour should, therefore, be to keep the minimum required balance in the nostro accounts. However, perfection on the count is not possible. Depending upon the requirement for a single currency more than one nostro account may be maintained. Each of these accounts is operated by a large number of branches. Communication delays from branches to the dealer or from the foreign bank to the dealer may result in distortions.

Maturity Mismatches Risk

This risk arises on account of the maturity period of purchase and sale contracts in a foreign currency not coinciding or matching. The cash flows from purchases and sales mismatch thereby leaving a gap at the end of each period. Therefore, this risk is also known as liquidity risk or gap risk

Mismatches in position may arise out of the following reasons:

(i) Under forward contracts, the customers may exercise their option on any day during the month which may not match with the option under the cover contract with the market with maturity towards the month end.

(ii) Non-availability of matching forward cover in the market for the volume and maturity desired.

(iii) Small value of merchant contracts may not aggregative to the round sums for which cover contracts are available.

(iv) In the interbank contracts, the buyer bank may pick up the contract on any day during the option period.

(v) Mismatch may deliberately created to minimise swap costs or to take advantage of changes in interest differential or the large swings in the demand for spot and near forward currencies.

Credit Risk

Credit Risk is the risk of failure of the counterparty to the contract Credit risk as classified into (a) contract risk and (b) clean risk.

Contract Risk: arises when the failure of the counterparty is known to the bank before it executes its part of the contract. Here the bank also refrains from the contract. The loss to the bank is the loss arising out of exchange rate difference that may arise when the bank has to cover the gap arising from failure of the contract.

Clean Risk Arises when: the bank has executed the contract, but the counterparty does not. The loss to the bank in this case is not only the exchange difference, but the entire amount already deployed. This arises, because, due to time zone differences between different centres, one currently is paid before the other is received.

Country Risk

Also known as sovereign risk or transfer risk, country risk relates to the ability and willingness of a country to service its external liabilities. It refers to the possibility that the government as well other borrowers of a particular country may be unable to fulfil the obligations under foreign exchange transactions due to reasons which are beyond the usual credit risks. For example, an importer might have paid for the import, but due to moratorium imposed by the government, the amount may not be repatriated.

Overtrading Risk

A bank runs the risk of overtrading if the volume of transactions indulged by it is beyond its administrative and financial capacity. In the anxiety to earn large profits, the dealer or the bank may take up large deals, which a normal prudent bank would have avoided. The deals may take speculative tendencies leading to huge losses. Viewed from another angle, other operators in the market would find that the counterparty limit for the bank is exceeded and quote further transactions at higher premium. Expenses may increase at a faster rate than the earnings. There is, therefore, a need to restrict the dealings to prudent limits. The tendency to overtrading is controlled by fixing the following limits:

(a) A limit on the total value of all outstanding forward contracts; and

(b) A limit on the daily transaction value for all currencies together (turnover limit).

Fraud Risk

Frauds may be indulged in by the dealers or by other operational staff for personal gains or to conceal a genuine mistake committed earlier. Frauds may take the form of the dealings for one's own benefit without putting them through the bank accounts. Undertaking unnecessary deals to pass on brokerage for a kick back, sharing benefits by quoting unduly better rates to some banks and customers, etc. The following procedural measures are taken to avoid frauds:

(a) Separation of dealing form back-up and accounting functions.

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(b) On-going auditing, monitoring of positions, etc., to ensure compliance with procedures.

(c) Regular follow-up of deal slips and contract confirmations.

(d) Regular reconciliation of nostro balances and prompt follow-up unreconciled items.

(e) Scrutiny of branch reports and pipe-line transactions.

(f) Maintenance of up-to records of currency position, exchange position and counterparty registers, etc.

Operational Risk

These risks include inadvertent mistakes in the rates, amounts and counterparties of deals, misdirection of funds, etc. The reasons may be human errors or administrative inadequacies. The deals are done over telecommunication and mistakes may be found only when the written confirmations are received later.

1.16 SUMMARY

Exchange control was introduced in India on September 3, 1939 on the outbreak of the Second World War by virtue of the emergency powers derived under the financial provisions of the Defence of India Rules, mainly to conserve the non-sterling area currencies and utilize them for essential purposes. In the closing stages of the war, it became clear that control over foreign exchange transactions would have to continue in some form or the other in the post-war period in the interest of making the most prudent use of the foreign exchange resources. It was, therefore, decided to place the control on a statutory basis and the Foreign Exchange Regulations Act of 1947 was enacted.

Over the years, the scope of exchange control in India has steadily widened and the regulations have become progressively more elaborate with the increasing foreign exchange outlays under successive Five-year Plans and the relatively inadequate earnings of foreign exchange. Periodically, appraisals and reviews of policies and procedures have been undertaken and such modifications made as are warranted by changes in the national policies and priorities, and fluctuations in the level of foreign exchange reserves caused by both national and international economic and other developments. Under these circumstances the Foreign Exchange Regulations Act, 1973 was passed to replace the Act of 1947.

The Foreign Exchange Regulations Act, 1973 (FERA) was reviewed in 1993 and several amendments were enacted as part of the on-going process of economic liberalisation relating to foreign investments and foreign trade for closer interactions with the world economy. At that stage, the Central Government decided that a further review of the Foreign Exchange Regulations Act would be undertaken in the light of subsequent development and experience in relation to foreign trade

and investment. A Task Force constituted for this purpose submitted its report in 1994 recommending substantial changes in the existing Act. The Foreign Exchange Management Act, 1999 was introduced to provide the necessary change.

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Foreign Exchange Dealing is a business in which foreign currency is the commodity. It is understood that exchange rate is not very constant always. Several factors are contributing to changes in exchange rate in International currency market. Exchange rates respond quickly to all sort of events. The movement of exchange rates is the result of the combined effect of a number of factors that are constantly at play. Among the factors, Economic factors are most fundamentals which better guides as to how a currency moves in the long run.

Foreign exchange gains and losses are an essential element of doing business abroad. They are a fact of life for firms engaged in international transactions. They directly affect a firm's earnings and cash flow. Therefore, a firm's management needs to realize that it can lose more money by neglecting the foreign exchange affect of international business than it can make by pushing for a marginal increase in international market penetration and sales.

Foreign exchange is a cost of doing business abroad which the management requires effective planning and knowledge of foreign exchange contracts like fixed, forward, spot and other aspects such as exchange fluctuations risk cover scheme, hedging, speculations, margin rate, currency call options, adjustable peg system, crawling peg system, managed floating system and interbank operation of foreign exchange, etc. Therefore a sound knowledge of the different aspect of FOREX is essential for any export management.

1.17 SELF ASSESSMENT QUESTIONS AND EXERCISES

1. Briefly describe the characteristics of foreign exchange market.
2. What are the factors that determine the exchange rate? Briefly describe the primary and secondary determinants
3. –There are a number of foreign exchange rates . Do you agree? Elaborate.
4. Who are the participants in the foreign exchange market?
5. What is a currency swap? Can they be used to overcome the exchange rate fluctuations?
6. What are the various problems faced by a firm when dealing in foreign exchange related business?
7. Bring out the difference between hedging the speculation.
8. Describe the various foreign currency account schemes available in India. In what respects do they help to overcome the problems of foreign exchange available in India?

9. What are forward rate agreements?
10. What is Exchange Rate Forecast? Can we forecast exchange rates?

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1.18 FURTHER READINGS

1. International Economics – Francis Cherunilam
2. International Financial Management – R.L. Varshney and S. Bhashyam
3. Foreign Exchange : Practice, Concepts and Control – C.Jeevanandam.
4. Export Marketing – Cherian and Parab

UNIT 5 CURRENCY DERIVATIVES

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LESSON -1

Structure

Learning objectives

After reading this lesson you should be able to

- Understand the meaning of future market
- The meaning of forward market
- The process by which the M.N.Cs manage their finance
- Reading Currency Future Quotes.

INTRODUCTION

World market has expanded many folds in recent years and hence financial Management had to follow it. Financial Management have come up with many new products whose popularity has become phenomenal. Growth in terms of trading volumes particularly for the products – principally futures and options has been so immense that it has confused the traditional investors. Though the active Management in futures and options contracts for physical commodities have existed for many years, these Management for foreign currencies have only recently attracted this much interest world wide. This has been experienced over the years that Multinational companies have been using the spot and forward Management for international transactions. They also use currency futures, currency options and currency futures options for carious corporate functions. Interesting point is that while Multinational companies use them to cover open positions in foreign currencies, the speculators, on the other hand, trade currencies in these three Management for profit.

Future Contract

Future contract is normally defined as a standardised agreement with an organized exchange to buy or sell some item, such as a currency or commodity at a fixed price at a certain date in the future. Some contracts for example, foreign-currency futures, provide for cash delivery; others, such as Eurodollar futures, are based on

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some reference price and allow only for cash settlement at maturity. The purpose of futures is not to obtain delivery but to replicate without credit risk, the gains or losses that would occur from an equivalent forward contract. In principle, currency futures are similar to foreign-exchange forwards in that they are contracts for delivery of certain amount of a foreign currency at some future date and at known price. But in practice, most futures contracts are terminated before maturity. Before we proceed further it would be good if we understand the Spot and Forward Foreign exchange rates, because without knowing these, our understanding of the whole multinational financial system and requirement would remain incomplete.

The Spot and Forward Foreign Exchange Rates

There are two types of foreign exchange rates, namely the spot rate and forward rates ruling in the foreign exchange market. The spot rate of exchange refers to the rate or price in terms of home currency payable for spot delivery of a specified type of foreign exchange. The forward rate of exchange refers to the price at which a transaction will be consummated at some specified time in future. In actual practice there is mot one but many spot rates of exchange; the spot rate for cables being different from the one applicable to cheques and commercial bills.

In modern times the system of forward rate of foreign exchange has assumed great importance in affecting the international capital movements and foreign exchange banks play an important role in this respect by matching the purchases and sales of forward exchange on the part of would be importers and would be exporters respectively. The system of forward foreign exchange rate has actually been developed to minimize risks resulting from the possibility of fluctuations over time in the spot exchange rate to the importers and exporters. An example would illustrate this point. Suppose that a radio dealer in India wants to import radios from England. The foreign exchange rate at the moment is Rs.18 for a pound sterling and at this rate the Indian radio dealer calculates that he could import the radios, pay the customs duty on them, sell them in India, pay the sterling price of the radios and make a profit on them. But by the time the radios have been shipped across the ocean, exhibited in Mumbai, sold and paid for, several months will have elapsed and the foreign exchange rate may now be Rs. 20 for a pond-sterling in which case he has to pay Rs. 2 more for each pound sterling of the price of the radio and in place of expected profits he may realize actual losses. In other words, the transaction will be profitable only if the Indian exporter can import radios at an exchange rate of 18 rupees for a pound sterling.

The forward foreign exchange rate market gives him this assurance. His band will sell him –three months forward pound-sterling at Rs. 18 per pound sterling by charging a slight premium. That means that the bank undertakes to sell the named quantity of the pound –sterling at and exchange rate of Rs. 18 per pound –sterling in three months time, whatever the rate of exchange in the exchange market may be when that time comes. Similarly, persons who expect to receive sums in foreign currency at future dates are able to sell –forward exchange to the

banks in order to be sure in advance exactly how much they will receive in terms of home currency. The basic importance of forward rate of exchange flows from the fact that actual rate of exchange is liable to fluctuate from time to time and this renders the purchase and sale of goods abroad risky. Forward exchange rate enables the exporters and importers of goods to know the prices of their goods which they are about to export or import.

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A Comparision Between Future and Forward Management

As a common trend and general preference, it is most unlikely that the investors would ever involve in the forward market, it is important to understand some of the attitudes, particularly as a good deal of the literature on pricing futures contracts typically refers to those contracts interchangeably. Specially differences resulting from liquidity, credit risk, margin, taxes and commissions could cause futures and forward contracts not to be priced identically. For example, in dealing with price risk, futures contracts have several advantages of transaction in comparision to forward contracts. Sequential spot contracts, which is also known as spot contracts where the terms of the contract are re negotiated as events unfold, do not inject any certainty into the transaction. Such a method of contracting is particularly liable to the hazards of opportunism and may deter investment because of the relatively high probability that the contract will be breached. But the forward and futures contracts inject some certainty into their transaction. In both of these, there is a similarity that the parties agree to perform the terms of the contract at some future date. Time dated contracts are generally costlier to enforce than spot contracts. This is so because of the absence of the self enforcing exchange of value characteristic of spot transactions and the greater uncertainty attached both to the eventual outcome and each party's compliance with the term of forward contract.

There are some differences between futures and forward contracts. The difference is more susceptible to opportunism, especially in their role of reducing price risk. Forward contracts that cover all feasible contingencies are costly specified forward contract and this contractual incompleteness will give rise to enforcement and execution difficulties. Some of the difficulties are listed below:

1. Individuals will have to incur the expense of determining the reliability risk of the opposite party in the forward contract.
2. Forward contracts are also subject to high enforcement costs where personal Management are weak.
3. Forward contracts are tied contracts.

Future Contracts

Future contracts allow the price risk to be separated from the reliability risk by removing the former from the set of factors giving rise to opportunism. The governance structure supplied by the exchange authority effectively eliminates

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reliability risk from future trading. The seller of futures contracts incurs a liability not to the buyer, but to the clearing house, and likewise the buyer acquires an asset from the clearing house. The clearing house in effect guarantees all transactions. In addition, the exchange rules, especially regarding its members contract, severely limit their ability to behave opportunistically. Organized exchanges greatly reduce default and reliability risk from future contracts. This is achieved by transferring transactions over price risks from a personal to an impersonal market through standard form futures contracts traded in self-regulated market price.

Future contracts are standard form contracts with only one negotiable term: price. The standardization of future contracts has significant implications for transaction costs. This is so for several reasons. First, contracts standardization eliminates the costs of bargaining over non-price terms and of enforcing contract provisions. Second, it reduces monitoring costs that are generally incurred in principal-agent relationships. The principal only needs to give his broker instructions as to price and quantity which are easily observed. The monitoring costs in the future market are, therefore, significantly lower than those n the spot market, where numerous other matters require attention and provide the broker with opportunities to take advantage of the principal. Third, contract standardization makes all futures contracts of a particular maturity month perfect substitution. The fungibility of futures contracts is not a property shared by forward contracts.

The liquidity and competitive nature of future trading also reduce the waiting costs of brokers and speculators for acceptable bids and offers. The ask-bid, one of the component of the transaction costs of futures trading is directly correlated with the search costs of finding acceptable bids and offers. We know in a market with incomplete information, buyers and sellers will have to search each other out. The costs of such search activity will differ and will be greater the more geographically dispersed and heterogeneous are buyers and sellers. The fact is that, the transaction costs arise because the parties to transactions are different individuals with different information, divergent motives and mutual suspicions and because expenditure of resources can reduce the gap in information and protect the parties against each other. Search costs not only raise the cost of activities but may preclude otherwise value maximizing transactions from taking place. The market information is important not only because it reduces waiting costs but also because it ensures that competitive pressures exist to keep waiting costs to a minimum for any volume of trade. Since there is competition among the futures traders and hence there is weeding out effect with excessive search costs and poor forecasting ability. The large traders make a regular profit whereas small traders make losses since the performance difficulties occasioned by opportunism raise the cost of transacting. Each party is confronted with a reliability risk. Reliability risk is an important source of transaction costs because it will pay individuals to guard against opportunism and contract breach. Acquiring information on the reliability of those with whom one transacts yields benefits in the form of reduced losses due to default and incomplete or inferior performance.

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Special Features of Futures and Forward Management

FUTURE MARKET

1. Trading is conducted in a competitive arena by–open country of bids, offers, and amount.
2. Contract terms are standardized with all buyers and sellers negotiating only with respect to price.
3. Non-member participants deal through brokers.
4. Participants include banks, corporations, financial institutions, individual investors are speculators.
5. The clearing house of the exchange becomes the opposite side to each cleared transactions; therefore, the credit risk for a futures market participant is always the same and there is no need to analyze the credit of other market participations.
6. Margins deposits are to be required of all participants
7. Settlements are made daily through the exchange clearing house. Gains on open positions may be withdrawn and losses are collected daily.
8. Long and short positions are usually liquidated easily.
9. Settlements are normally made in cash, with only a small percentage of all contracts resulting actual delivery.
10. A single, round tip (in and out of the market) commission is charged. It is negotiated between broker and customer and is relatively small in relation to the value of the contract.

Forward Market

1. Trading is done by telex or telephone, with participants generally dealing directly with broker-dealers.
2. All contract terms are negotiated privately by the parties.
3. Participants deal typically on a principal -to-principal basis.
4. Participants are primarily institutions dealing with one other and other interested parties dealing through one or more dealers.
5. A participant must examine the credit risk and establish credit limits for each opposite party.
6. Typically, no money changes hands until delivery, although a small margin deposit might be required of non dealer customers on certain occasions.
7. Settlement occurs on date agreed upon between the parties to each transaction.
8. Forward positions are not as easily offset or transferred to other participants.
9. Most transactions result in delivery.

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10. No commissions is typically charged if the transaction is made directly with another dealer. A commission is charged to both buyer and seller, however, if transacted through a broker.
11. Trading is mostly unregulated.
12. The delivery price is the forward price.

After having distinguished the forward and the future Management it is important to know the operations in these Management. For this we have to first see that what is currency quotes and as to how to read the currency future quotes. First of all we will see that what is meant by currency future quotes.

Currency future quotes can be understood better with the help of the following table.

Contracts traded at the International Monetary Market	The face value of the contract is L62,500.	Settlement price normally the last trade used for marking to market , the daily adjustment of margin accounts.	Change for previous day's closing price.		Day's highest and lowest prices		First price of the day calculated in U.S.dollars per pound sterling.		
Months	open	High	Low	Settle	Change	High	Low	Open Interest.
Mar	1.4296	1.4346	1.4180	1.4224	-0.052	1.9400	1.4180	41,833
Jun	1.4130	1.4250	1.4090	1.4136	-.0052	1.9100	1.4090	1,377
Sept.	1.4095	1.4125	1.4024	1.4072	-.0050	1.5580	1.4070	136

The above table is a reproduction of currency-futures quotations that is normally found in most business newspapers. These futures are contracts for delivery of a standard amount of a foreign currency in exchange for delivery of a standard amount of a foreign currency in exchange for delivery of a given amount of U.S. dollars at some future date. The funds to be exchanged may be, for example, 125000Euro in exchange for the equivalent value in dollars. The figure offers a guideline for interpretation of published future quotations. As in the forward market, each delivery takes place in the currency of the country, although as a matter of practice few deliveries actually occur. The futures contract can be used to hedge, speculate or perform arbitrage in much the same way as forwards are used. Many commercial and investment banks are members of the major futures exchanges and are able to buy currencies in the forward market and sell them in the futures

Management, and vice-versa, ensuring that futures prices stay in line with forward prices for the same delivery date.

Market Operations

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So far as future market operation is concerned, evolution is its feature and thus a collateral margin that has evolved is to reduce the default risk. As opposed to margins or stock accounts, a futures margin payment is not a form of down payment on the balance due since a futures transaction is not an investment of initial capital in return for a later payoff, but rather in its purest form, is means of gradually settling the losses and gain on the contract and also as collateral against default. Margin payments are paid frequently in small amounts relative to the size of the contract, rather than in one large initial lump sum,. So as to preserve the basic character of a futures contract as a forward agreement deferred payments for deferred delivery. In fact, daily cash settlement procedure is an important aspect of the futures Management, integral in maintaining the trading system. Each of the transaction requires a good faith deposit known as initial margin, to be posted with a broker. The minimum amount of initial margin required is set by the exchange based on the price volatility of the underlying products. The value of a contract position is assessed, marked to market daily and these changes are settled in cash on a daily basis. For example, if a contract prices increase, the longs who have purchased the contract would receive cash equal to the value of gains, while the shorts-who have sold contracts –would have to pay in funds equal to the value of losses. This process is known as *variation margin,* keeps the value of each market participants position current and constitutes to the credit of the futures market. Initial margin ensures that the participants will pay variation-margin deficit. When the system is tied with the variation margin vehicle through which daily marks to market occur, an individual gains the ability of offset a position at any time without regard to who was initially of the other side of the transaction. This is a key to ease of trading and confidence in the futures Management. This makes the possibility of taking a large market position without committing a large amount of capital. For this reason, futures contracts are considered an extremely highly leveraged instrument relative to most financial securities. Although high leverage is often associated with high financial instability and high default risk, futures Management have a history of financial integrity and low default risk is largely a property of the intricate, multi-tiered, continually adjusting margining system.

An Illustrative Example

In order to understand the operation of the futures market, let us take an imaginary example. Suppose there is an investor who contracts his broker on June 6, 1999 to buy two Nov. 1999 gold futures contracts on the exchange ABC Commodity Exchange. Let us again suppose that the current futures price is $500 per ounce. Since the contract size is 100 ounces, the investor has contracted to buy total of 200 ounces at this price. The broker will require the investor to deposit funds in what is termed a margin account the amount must be sited at the time the contract

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is first entered into is known as the initial margin. We assume this is $2500 per contract of $5,000 in total. At the end of each trading day, the margin account is adjusted to reflect the investor's gain or loss. This is known as marking to market the account.

Suppose by the end of June 6, 1999, the futures price has dropped from $500 to $497. The investor has a loss of 200x$3 or $600. This is because the 200 ounces of Nov. 1999 gold, which he contracted at $500, cannot be sold for $600 to $4400. Similarly, if the price of December 1999 gold rose to $503 by the end of the first day, the balance in the margin account would be increased by $600 to 5600. A trade is first marked to market at the close of the day on which it takes place. It is then marked to market at the close of trading on each subsequent day.

Marking to market is not merely an arrangement between broker and client, however, when there is a $600 decrease in the future prices so that the margin account of an investor with a long position is reduced by $600, the investor's broker has to pay the exchanges $600 the exchange passes the money on the broker of an investor with a short position. Similarly when there is an increase in the futures price, brokers for parties with short positions pay money to the exchange and brokers for parties wit long positions receive money from the exchange.

The investor is entitled to withdraw any balance in the margin account in excess of the initial margin. In order to ensure that the balance in the margin account never becomes negative a maintenance margin, which is somewhat lower than the initial margin, is set. If the balance in the margin account falls below the maintenance margin, the investor receives a margin call and is expected to top up the margin account to the initial margin level the next day. In case the extra funds deposited, known as variation margin, are not provided by the investor, the broker closes out the position by selling the contract. In the case of the investor considered earlier, closing out the position would involve underlying the existing contract by selling 200 ounces of gold for delivery in November 1999.

Clearing House and Clearing Margins

The trade for an outside party must be executed through a broker, and the broker must, in turn, trade through a member of the exchange. Normally, the two patties to a transaction are located far apart and may not even know each other. This becomes an issue of trust and the question of whether the traders will perform as they have promised. To overcome of resolve this uncertainty about performance in accordance with the contract terms, each futures exchange has a clearing house. The clearing house is a well-capitalized financial institution that guarantees contract performance to both parties. As soon as the trade is commutated, the clearing house interposes itself between the buyer and seller. At this point, the original buyer and seller have obligations to the clearing house and no obligations to each other.

The exchange clearing house calculates the number of contracts on trading on either a gross or a net basis while calculating clearing margins. The difference

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between the current spot price on an asset and corresponding futures prices form the basis. The gross basis simply adds the total of all long positions entered into by clients to the total of all short positions entered into by clients. The basis allows these to be offset against each other. For example, suppose that a clearing house member has two clients, one with a buy position in 50 countries, the other with a short position in 30 contracts. Gross margining would calculate the clearing margin on the basis of 20 contracts. The whole purpose of the margining system is to reduce the possibility of market participants sustaining losses because of defaults.

Hedging in the Futures Market

The future market is so sensitive and organized that a single forward contract can arrange for the precise amount and maturity that the bank's customer desires. A single future contract is available only in a predetermined amount for one of the four maturity dates each year. These two features of the futures market may force multinational companies to assume some risks of coverage and of currency fluctuation because they usually need a specified amount of a currency on a specified date. Still, these risks can he minimized in a properly structured hedge. Prices in the spot and futures Management move in the same direction by similar amounts due to arbitrage transactions between these two Management. For example, suppose on March 1, an English firm imports 5000 Swiss watches at a cost of 250,000 Euros with payment and delivery due on April 1. The Swiss firm, being a tough negotiator, has demanded that the payment he made in Euro upon the delivery of the watches. The exchange rates are $0.6667per Euro in the spot market and $0.6655per Euro in the futures market for delivery on March 15.

Given the costs of marketing the watches, the importer decides that the futures exchange rate is low enough of the company to purchase them and make a profit on the transaction. However, the importer must pay for the watches on March 1, though the expiration date of the futures contract is March 15. The importer can hedge most of its exposure by buying March Swiss Euro contracts on February 1 with the intention lifting the hedge on March 1. Because Euro contracts are available from the IMM in units of 125,000, the importer would purchase two March contracts.

The above explanation can be understood well by the following table:

TABLE-2

Buying Two Euro Futures Contracts on February 1

	Spot Market	Futures Market For March 15 Delivery
Exchange rate	$0.6667/SF	$0.6655/SF
Cost of SF 250,000	$166,675	$166,375
Action taken contract	None	Buy March 15

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The importer could trade out of the contracts by selling them before receiving a delivery notice. The importer could buy 250,000Euros in the futures market for $ 166,375 on March 15. The only risk that the company still faces comes from the difference in the value of the contract on March 1 and its value on March 15. Assume that by March 1 the following two things would happen:

1. The spot rate appreciates to $ 0.7658 and
2. The futures rate rises to $0.7650

In these situations let us see what the importer would do

In the above situation the importer could close out the Euro futures contracts by selling them on March 1. This situation can be well understood by the following table:

TABLE-3

Reversing the Earlier Futures Contracts

	Spot Market	Future Market for March 15 Delivery
Exchange rate	$0.7658/SF	$o.7650/SF
Cost of SF250,000	$191,450	$191,250
Action taken	Buy SF250,000	Sell March 15 contract

On March 1, the importer purchases 250,000 Euros in the spot market for $ 191,450 and settles its import bill. But, this $191,450 is higher than its original value on February 1 in other words, the exchange loss from the spot transaction is $ 24,775. The futures contract the company sold on March 1 ($191,250) is higher ($24,875) than the $166,375 the company anticipated in the futures contract it purchased on February 1; in other words, the exchange gain form the futures transactions is $24,875. The $24,875 gain form the futures transaction exceeds the $24,775 loss from the spot transaction. The risk that the imported assumed on February 1 by purchasing two contracts whose maturity did not coincide with the March 1 usage date currency resulted in a wide fall exchange gain of $100 ($25,875-$24,775). This $100 gain arose form the difference between the spot rate and the futures rate prevailing on the day the contracts were liquidated. This differences the basis.

The basis, unlike the spot rate itself, is relatively stable and narrows toward zero as the contract moves toward maturity. For example, the basis on February 1 was $0.0012 per franc ($0.6667-$0.6655), while by March 1 it had shrunk to $0.0008 ($0.7658-$0.7650). The degree of uncertainty about the futures price diminishes further as the contract approaches its March 15 expiration date. On March 15, the futures rate, in effect, becomes the spot rate.

The difference of $0.0004 /SF in the basis between February 1 and March 1 accounted for the wind fall exchange gain of $100.This gain might easily have been an exchange loss of a similar amount if the exchange rate of the Swiss franc had depreciated during the same period. The important point is that the importer was protected form any major loss regardless of exchange—— rate movements. For example, if the importer had not purchased the futures contract and bought 250,000 francs in the spot market on March 1, the watches would have cost an additional $24,775.

Frequent futures traders may try to coordinate trading between two different Management or two different currencies through a strategy called spread trading. *Spread trading means buying one contract and simultaneously selling another contract.*

They will always make money on one contract and lose money on the other contract. Thus, they may make or lose more money on the one contract than they lose or make on the other, but they are protected from major loss regardless of exchange-rate movements.

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REVIEW QUESTIONS

1. What is meant by currency futures?
2. What is meant by currency forwards?
3. Compare and contrast between Future and Forward Management.
4. Bring the special features of the Future Market.
5. Bring out the special features of the Forward Market.
6. Explain currency future quotes.
7. Explain the operation of the future and forward Management.
8. What is Clearing House and Clearing Margins?

LESSON - 2: CURRENCY OPTIONS

Structure

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Introduction
Basic terms
Market Structure
Currency Options
Currency Option Pricing
Currency Call Options
Currency Options for Whom

After reading this lesson you should be able to

- What is meant by currency options.
- Basic terms of currency options.
- You will learn about market structure.
- What are currency options and call options.
- Who requires currency options.

INTRODUCTION

The forward contract provides an exchange rate for the future but one facesnumber of circumstances where it may be desirable to have flexibility than a forward provides. For example, a software manufacturer in India may have sales priced in U.S dollars as well as a France Frank in Europe. Revenue can be realized in either France Frank of Dollars though this depends upon the relative strength of the two currencies. In such a situation the use of forward of futures would be inappropriate. The matter of hedging does not arise because it would be like hedging something which the company does not have. Therefore, what is called for is a foreign-exchange option right but not the obligation to exchange currency at a predetermined rate.

The Definition or the Basic Terms

A foreign-exchange option is a contract for future delivery of a specific currency in exchange for another, in which the holder of the option has the right to buy or sell the currency at an agreed price. The right to buy is a call ; the right to sell , a put. For such a right the buyer pays a price called the *option premium*. The option seller receives the premium and is obliged to made delivery at the agreed-upon price if the buyer exercises his option. In some options, the instrument being delivered is the currency itself, in others, it is a futures contract on the currency.

American options permit the bolder to exercise at any time before the expiration date, European options only on the expiration date.

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Structure of the Market

Options are purchased and traded either on an organized exchange (such as the Philadelphia Stock Exchange on in the over-the counter (OTC) market. Exchange-traded options or listed options are standardized contracts with predetermined exercise prices, standard maturities (one, three, six, nine, and twelve months), and fixed maturities (March, June, September and December). Options are traded in standard contracts half the size of the IMM futures contracts, Cross-rate options are also available for the DM/Y, **£**/DM, and £/Y. By taking the U.S. dollar out of the equation, cross-rate option allow one to hedge directly the currency risk that arises when dealing with non dollar currencies. The PHLX trades both American style and European style currency options. It also trades month end options which ensures the availability of a short-term currency options at all times and long term options which extend the available expiration months on PHLX dollar based and cross rate contracts providing for 18, 24, 30 and 36 months European style options. On a later date the PHLX introduced a new option contract – called Virtual Currency Option, which is settled in us dollars rather than in the underlying currency.

Other organized options exchanges are located in Amesterdam (European Options Exchange), Chicago (Chicago Mercantile Exchange) and Montreal (Montreal Stock Exchange) OTC options are contracts whose specifications are generally negotiated as to the amount, exercise price and rights, underlying instrument, and expiration. OTC currency options are traded by commercial and investment banks in virtually all finance centers. OTC activities is concentrated in London and New York and it centers on the major currencies, most often involving U.S. dollars against pounds sterling, Deutsche marks, Swiss francs, Japanese yen, and Canadian dollars Branches of foreign banks in the major financial centers are generally willing at write options against the currency of their home country.

The structure of the OTC options market consists of two sectors-

1. Retail Market

This market is composed of nonblank customers who purchase from banks what amounts to customized insurance against adverse exchange rate movements and,

2. Whole Sale Market

\A whole sale market is composed of commercial banks, and specialized trading firms. This is mainly involve in inter bank OTC trading, trading on the organized exchanges.

Most retain customers for OTC options are either corporations active in international trade of financial institutions with multicurrency asset portfolios.

These customers could purchase foreign exchange puts of calls on organized exchanges, but they generally turn to the banks for options in order to find precisely the terms that match their needs. Contracts are generally tailored with regard to amount, strike price, expiration date and currency.

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Currency call Options

After understanding the structure of the currency option market- both the retail and the whole sale Management, it would be useful to understand the currency call options. In the following paragraphs we would be involved in understanding the currency options available to a buyer.

A currency call option is a contract that gives the buyer the right to buy a foreign currency at a specified price during the prescribed period. Firms buy call options because they anticipate that the spot rate of the underlying currency will appreciate. Currency option trading can take place for hedging or speculation.

Hedging in the call Option Market

Multinational companies with open positions in foreign currencies can utilize currency call options. For example, suppose that an American firm orders industrial equipment form a German company, and its payment is to be made in German marks upon delivery. A German mark call option call option lacks in the rate at which the U.S company can purchase marks for dollars. Such an exchange between the two currencies at the specified strike price can take place before the settlement date. Thus the call option specifies the maximum price which the U.S. company must pay to obtain marks. If the spot rate falls below the strike price by the delivery date, the importer can buy marks at the prevailing spot rate to pay for its imports and can simply let its call option expires.

Speculating in the call Option Market

Firms and individuals may speculate with currency call options based on their expectations of exchange-rate fluctuations for a particular currency. The purpose of speculation in the call option market is to make a profit from exchange-rate movements by deliberately taking an uncovered position. If a speculator expects that the future spot rate of a currency will increase, he makes the following transactions:

The speculator will

1. Buy call options of the currency
2. Wait for a few months until the spot rate of the currency appreciates high enough
3. Exercise his option by buying the currency at the strike price, and
4. Sell the currency at the prevailing spot rate.

In order to understand it better let us have an example:

Assume that the call premium per English pound on March 1 is 1.10cents, the expiration date is July, and the strike price is $1.60. Ms. Stuti anticipates that the sot rate of the pound will increase to $ 1.70 by June 1. If Ms. Stuti's expectation proves correct, what would be her dollar profit from speculating one pound call option in the call option market?

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Ms. Stuti could make a profit of $2,781.25 by doing the following trading activities:

1. Buy call options on March 1	-$0.0110 per pound
2. Exercise the option on June 1	-$1.6000 per pound
3. Sell the pound on June 1	+$1.7000 per pound
4. Net profit as of June 1	+$0.0890 per pound
5. Net profit per contract	£31,250x$0.0890=$2,781.25

Stuti does not need to exercise her call options in order to make a profit. Currency call option premiums raise and fall as exchange rates of their underlying currency rise and fall. If call options become profitable, their premiums will rise. They can be sold on an exchange just like any foreign currency itself. Therefore, a call option holder such as Stuti can save the expense and bother of taking possession of the currency and selling it.

Currency Put Options

A currency put option is simply a contract that gives the holder the right to sell a foreign currency at a specified price during a prescribed period. People buy currency put options because they anticipate that the spot rate of the underlying currency will depreciate. Multinational companies who have open positions in foreign currencies can employ currency put options to cover such positions. For example, assume that an Indian company which has sold an airplane to a Japanese firm and has agreed to receive its payment in Japanese yen. The exporter may be concerned about the possibility that the yen will depreciate when it is scheduled to receive its payment from the importer. To protect itself against such a yen depreciation, the exporter could buy yen put options, which would enable it to sell yen at the specified strike price. In fact, the exporter would lock in the minimum exchange rate at which it could sell Japanese yen in exchange for U.S. dollars over a specified period of time. On the other hand, if the yen appreciates over this time period, the exporter could let the put options expire and sell the yen at the prevailing spot rate.

Individuals may speculate with currency put options based on their expectations of exchange rate fluctuations for a particular currency. For example, if speculators believe that the German mark will depreciate in the future, they can buy mark put options, which will entitle them to sell marks at the specified strike price. If the mark's spot rate depreciates as expected, they can buy marks at the spot rate and exercise their put options by selling these marks at the strike price. Speculators do not need to exercise their put options in order to make a profit. They could make a profit from selling put options because put option premiums fall and rise as exchange rates of the underlying currency rise and fall. The seller of put options has the obligation to purchase the specified currency at the strike price from the owner who exercises the put option. If speculators anticipate that the

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currency will appreciate, they might sell their put options. But if the currency indeed appreciates over the entire period, the put option will mot e exercised. On the other hand, if they expect that the currency will depreciate, they will keep their put options. Then they will sell their put options when the put option premiums go up.

Hedging Currency Positions (Various Options)

Hedging currency has various options such as –with foreign currency options, hedging with currency futures and contracts etc. Let us now explain each one by one:

Hedging Currency Positions with Foreign Currency Options

In 1972, the flexible exchange rate system was re established and since then the multinational corporations, international banks and governments have had to deal with the problem of exchange rate risk. Until the introduction of currency options, exchange rate risk usually was hedged with foreign currency forward or futures contracts. Hedging with these instruments allows foreign exchange participants to lock in the local currency values of their revenues of expenses. However, with exchange-traded currency options and dealer's options, hedgers, for the cost of the options, can obtain not only protection against adverse exchange rue movements, but benefits if the exchange rates move in favorable directions.

This can be understood with the help of an example.

Suppose a U.S. computer corporation sells one of its mainframe computers to a German manufacturing company for 625,000 DM, with the payment to be made in Deutsche marks by the German company to the U.S. Company at the end of three months. Suppose the current exchange rate is $.40/DM. Thus, if the U.S Company were paid immediately and the marks were converted, it would receive $250,000. Since payment is not due for three months, the US company faces both the risk that the $/DM exchange rate could decrease, resulting in fewer dollars, and the possibility of greater dollar returns if the $/DM exchange rate increases. For the costs of DM put options, the US. Company can protect its dollar revenues from possible exchange rate decreases while still benefiting if the exchange rate increases.

Hedging with Currency Futures and Contracts

With the following options the foreign currency can be hedged.

1. By going long in a currency call option, the investor can lock in the maximum dollar costs of a future cash outflow or liability denominated in a foreign currency while still maintaining the chance for lower dollar outlays if the exchange rate decreases. In contrast, by going long in a currency put, the investor can lock in the minimum dollar value of a future inflow or asset denominated in foreign currency while still maintaining the possibility of a greater dollar inflows in case the exchange rate increases. With foreign currency futures and forward contracts, the domestic currency value of

future cash flows or the future dollar value of assets and liabilities denominated in another currency can he locked in. Unlike Option hedging, however, no exchange rate gains exist when futures or forward contracts are used.

2. Hedging Future Currency Cash Flows With A Naïve Hedge Large multinational corporations usually hedge their currency positions in the inter-bank forward market, whereas smaller companies, some portfolio managers, and individuals often use the futures market. Either way, the currency position usually is hedged with a naïve hedging model in which the number of futures or forward contracts is equal to the value of the foreign currency position to be hedged.

   To illustrate currency hedging, consider the option hedging example presented above in which a U.S company expected a receipt of 625,000 DM at the end of three months. Instead of hedging with a DM put, suppose the company decides to hedge its receipt with a DM futures contracts expiring at the end of three months, currently trading at S_f =\$0.40/ DM when the spot exchange rate is at S_0 =\$0.40/ DM. Since the contract size on the DM futures contract is 125,000 DM, the company would need to go short in five DM contracts, if it uses a naïve hedging approach:

$$\frac{(\$0.40 / \text{DM})\ (625{,}000\ \text{DM})}{(\$0.40/\ \text{DM})\ (125{,}000\ \text{DM})} = 5$$

   Doing this, the company would, in turn, ensure itself of a \$250,000 receipt at expiration when it converts its 625,000 DM to dollars at the spot \$ / DM exchange rate and closes its short futures position.

   If a multinational has a future debt obligation that is required to pay in foreign currency; then it could lock in the dollar cost of the obligation by taking a long futures or forward position. This hedging strategy where the dollar costs of purchasing 625,000 DM at the end of three months is hedged with five long DM contracts priced at S_f=\$0.40 / DM. In this case, the net costs of purchasing the Maria on the spot and closing the futures is \$250,000, regardless of the spot exchange rate.

Currency Options for whom i.e. who needs Currency Options

Currency options are useful for all those who are the players or the users of the foreign currency. This is particularly useful for those who want to gain if the exchange rate improves but simultaneously want a protection it the exchange rate deteriorate. The most the holder of an option can lose is the premium he paid for it. Naturally, the option writer faces the mirror image of the holder's picture: if you sell an option, the most you can get is the premium if the option dies for lack of exercise. The writer of a call option can face a substantial loss if the option is exercised: he is forced to deliver a currency-futures contract at a below-market price. If he wrote a put option and the put is exercised, then he is obliged to buy the currency at an above-market price.

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Foreign exchange options present an asymmetrical risk profile unlike futures, forwards and currency options. This lopsidedness works in favor of the holder and to the disadvantage of the writer. This is why because the holder pays for it i.e he takes the risk. When two parties enter into a symmetrical contract ;ole a forward, both can gain or lose equally and neither party feels obliged to charge the other for the privilege. Forwards, futures, and swaps are mutual obligations; options are one-sided. The holder of a call has a downside risk limited to the premium paid up front; beyond that he gains one-for –one as the price of the underlying security.

One who has brought p put option gains one-for-one as the price of the underlying instrument falls below the strike price. Traders who have written or sold options face the upside down mirror image profit profile of those who have bought the same options.

From the asymmetrical risk profile of options, it follows that options are ideally suited to offsetting exchange risks that are themselves asymmetrical. The risk of a forward-rate agreement is symmetrical; hence, matching it worth a currency option will not be a perfect hedge. Because doing so would leave you with an open, or speculative, position. Forward contracts, futures or currency swaps are suitable hedges for symmetrical risks. Currency options are suitable in which currency risk is already lopsided, and for those who choose to speculate on the direction and volatility of rates.

Options are not only for hedgers, but also for those who wish to take a –view . However, for one who is, say, bearish on the deutschemark, a DM put is not necessarily the best choice. One can easily bet on the direction of a currency by suing futures or forwards. A DM bear would simply sell DM futures, limiting his loss, if wants to do so, via a stop loss order.

Who needs American option? Because if offers an additional right- the privilege of exercise on any date up to the expiration date- it gives the buyer greater flexibility and the writer greater risk. American options will therefore tend to be priced slightly higher than European options. Even so, the American option is almost always worth more alive than –dead , meaning that it pays to sell rather than exercise early. The reason for this statement lies in the fact that most option trade at a price higher than the gain that would be made from exercising the option.

REVIEW QUESTIONS

1. What is meant by currency options?
2. What are major differences between forward and futures contacts?
3. Explain the market structure for currency options.
4. Explain currency option pricing.
5. Explain with example the currency call options.
6. What do you mean by speculating in the Call Options Market?
7. Examine various aspects of the currency put options.
8. Explain hedging positions with foreign currency options.
9. Explain with example hedging future currency cash flows with a naïve hedge.
10. Explain –who needs options ?

LESSON-3: SWAPS

Structure

Introduction
The concept
Growth of the Swap Market
The Basic Swap Structure

NOTES

After studying this lesson you would be able to understand

- The concept of the Swap Market
- The structure of the Swap Market
- Growth and functioning of the Swap Market

INTRODUCTION

Exchange rate instability and the collapse of the Bretton Woods System and particularly the control over the movement of the capital internationally, paved the way for the origin of the financial swaps market. To day swaps are at the centre of the global financial revolution. The growth is such that sometimes it looks like unbelievable but it is true. Though its growth will continue or not is doubtful.

Already the shaking has started. In the –plain vanilla dollar sector , the profits for brokers and market makers, after costs and allocation of risk capital, are measured in fewer than five basis points. This is before the regulators catch up and force disclosure and capital haircuts. At these spreads, the more highly paid must move on to currency swaps, tax-driven deals, tailored structures and schlock swaps.

The fact which is certain is that, although the excitement may diminish, swaps will stay. Already, swaps have had a major macro economic impact forging the linkage between the euro and the domestic Management, flattening the cash yield curves, and reducing central bank monopoly influence on Management. We are all swappers now. And remember the saying –beware of honey offered on a sharp knife when you are offered sweet deals. The problem in following the chaotic process of this very important market is quite simply that –he who knows does not speak, he who speaks does not know. A glimpse of the growth of swap market and a short list of the non proprietary tools in the swapper’s arsenal is given below:

The concept of the SWAPS

The aim of swap contract is to bind the two counterparties to exchange two different payment stream over time, the payment being tied, or at least in part, to subsequent—and uncertain—market price developments. In most swaps so far, the prices concerned have been exchange rates or interest rates, but they increasingly reach out to equity indices and physical commodities. All such prices have risk characteristics in common, in quality if not degree. And for all, the allure of swaps

may be expected cost saving., yield enhancement, or hedging or speculative opportunity.

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Portfolio management requires financial swaps which are simple in principle, versatile in practice yet revolutionary. A swap coupled with an existing asset or liability can radically modify effective risk and return. Individually and together with futures, options and other financial derivatives, they allow yield curve and currency risks, and liquidity and geographic market considerations, all to be managed separately and also independently of underlying cash market stocks.

Growth of the SWAP Market

In the international finance market most of the new products are executed in a physical market but swap transactions are not. Participants in the swap market are many and varied in their location character and motivates in exciting swaps. However, in general the activity of the participants in the swap market have taken on the character of a classical financial market connected to , and integrating the underlying money, capital and foreign exchange market.

Swap in their current form started in 1981 with the well-publicised currency swaps, and in the following year with dollar interest rate swaps. The initial deals were characterized by the three critical features.

1. Barter- two counterparties with exactly offsetting exposures were introduced by a third party. If the credit risk were unequal, the third party- if a bank – might interpose itself or arrange for a bank to do so for a small fee.
2. Arbitrage driven- the swap was driven by a arbitrage which gave some profit to all three parties. Generally, this was a credit arbitrage or market-access arbitrage.
3. Liability driven- almost all swaps were driven by the need to manage a debt issue on both sides.

The major dramatic change has been the emergence of the large banks as aggressive market makers in dollar interest rate swaps. Major US banks are in the business of taking credit risk and interest rate risk. They, therefore, do not need counterparties to do dollar swaps. The net result is that spreads have collapsed and volume has exploded. This means that institutional investors get a better return on their investments and international borrowers pay lower financing costs. This, in turn, result in more competitively priced goods for consumers and in enhanced returns pensioners. Swap therefore, have an effect on almost all of us yet they remain an arcane derivative risk management tool, sometimes suspected of providing the international banking system with tools required to bring about destruction.

Although the swap market is now firmly established , there remains a wide divergence among current and potential users as to how exactly a given swap

structure works, what risks are entailed when entering into swap transactions and precisely what –the swap market is and, for that matter is not.

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The basic SWAP Structures

The growth and continued success of the swap market has been due small part to the creativity of its participants. As a result, the swaps structures currently available and the future potential structures which will in time become just another market – norm are limited only by the imagination and ingenuity of those participating in the market. Nonetheless, underlying the swap transactions seen in the market today are four basic structures which may now be considered as –fundamental . These structures are:

- the Interest Rate Swap
- the Fixed Rate Currency Swap
- the Currency Coupon Swap
- the Basis Rate Swap

The Currency SWAP Market: Main Features

The oldest and the most creative sector

The currency swap market is the oldest and most creative sector of the swap market. This is not distinguished in market terms between the fixed rate currency swap and the currency coupon swap. There is no distinction in market terms between these two types of currency swaps because the only difference is whether the counter currency receipt/payment is on a fixed or floating basis- in structure and result, the two types of swaps are identical and it is a matter of taste (or preference) for one or both counterparties to choose a fixed or floating payment. When the dollar is involved on one side of a given transaction, the possibility to convert a fixed rate preference on one side to a floating rate preference on the other side through interest rate swap market makes any distinction even more irrelevant. However, for those who like fine distinctions, there is a tendency in the market to regard the fixed rate currency swap market as more akin to the long date forward foreign exchange market (because when one is executing a fixed currency swap one may often be competing with the long-date FX market) and the currency coupon swap market as more akin to the dollar bond/ swap market (because the dollar bond issuer compares the below LIBOR spread available in the dollar market to that available, say, through tapping the Swiss Franc market.)

Most Interesting Sector of the Swap Market

Whatever distinctions one wishes to draw or not to draw between the two basic types of swaps in the currency swap market, there are many reasons why this market is the most creative and therefore, most interesting sector of the swap market. While still smaller than the dollar interest swap market, the currency swap

market has great and perhaps even greater potential for growth than the dollar market, particularly in the light of the growth in local/ Euro capital Management in a wide range of currencies.

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The Primary and the Secondary Sector

One can classify activity in the currency swap market into the same two basic sectors as the interest swap market – a primary and secondary sector. In the currency swap market, the primary sector is dominant across the yield curve and the key motivating forces underlying this market are –new money and –hedging in that order. –New money or the willingness to execute swap-related public or private financing in one currency to achieve a finer cost or enhanced availability in another currency is the key motivating force behind the currency swap market, particularly for banks and sovereign entities. Such entities have had large capital and refinancing requirements in recent years. The capacity of any one market (eg: the Eurodollar bond market) to provide all of these requirements at the finest possible cost has been limited. Hence, many banks and sovereign have been willing to approach the private and public debt Management in currencies for which they have no natural requirements (but which the swap market can use) in order to reduce costs and / or gain greater access to a particular currency which is required. Restructuring, or –hedging current debt portfolios, cash flows or investments, is clearly an influence of second order is comparisons to the influence of –new money . The flexibility of loan repayment clauses and the fact that many corporate and sovereign entities have found their access to a wide range of securities Management greatly expanded in recent years means that even if the fundamental motivation of a currency swap is restructuring/ hedging, this would normally be preceded by an issuer first obtaining a cheaper cost of funds in the base currency through securities or near security transactions.

The Creativity

From the market point of view, the driving force of the currency swap market is creativity. Structures in the currency swap market range from the extremely simple to the complex, multi-faceted, multi-counterpart transactions whose economies exist in the dimensions available only to the mathematician. One is limited in the currency swap market only by the problem to be solved, one's imagination, the skills of your personal computer operators and of course, the ability of your colleagues to find suitable counterparts around the world at the right time and price. As opposed to the dollar market, where capital commitment has become increasingly important, the key in the currency capital commitment has become increasingly important, the key in the currency swap market is still commitment to creative problem-solving and development of a swap distribution system on a global basis—classic investment banking.

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Individual Demand and Supply Interplay

–Warehousing in the primary market is not widespread due to the difficulty of covering the interest rate risks while the swap is in position. A swap arranger can cover the foreign exchange risks associated with –booking open a position in a given currency but often times the arranger cannot cover against a movement in interest rates for that currency or is forced to use (generally poor) surrogate cover. This is due to the fact that currency swap rates generally move to the laws of their own supply and demand and do not necessarily relate to say, local government bond Management where cover in some currencies can be obtained (particularly sterling and Deutschmarks). But taking of position does not take place among a few selected players and such market-making is not done on a much wider spread basis versus capital market rates than in the dollar interest swap market. However, until better and more consistent relationship between swap rates and the available interest cover develops, position-taking in the currency swap market will remain very much akin to long-date forward foreign exchange dealing and less toward the classic arbitrage model of the swap market.

The Most Important Currencies of the Swap Market

The most important currencies in the swap market in rough order of magnitude are the Swiss Franc, Yen, Deutschemarks, Pound sterling and Canadian dollar. These currencies are popular in the swap market due to their low interest rates (versus Dollar) and the relative ease of access by a wide range of issuers to private and public debt in the –Euro and domestic Management of these currencies. Many supranational and sovereign borrowers find their access to the debt Management of such currencies constrained (versus their sometimes quite large requirements) and therefore make extremely active and frequent use of the currency swap market. Such entities either lend in their currencies (and are therefore covering/ matching assets with liabilities) or are trying to diversify their debt portfolios away from the dollar and the costs of the vagaries of that currency can impose on national budgets.

Dollar's Domination

Even after so much development in the swap market, the domination of dollar continues. Though this is also the fact that many direct currency combination continues such as Yen/Swiss Franc. The other high interest rate currencies involved in the currency swap market are viewed as speculative vehicles for aggressive debt portfolio managers or companies in the local market which would have to pay dearly for fixed rate debt. This late comer accounts for the active use of exotic currency debt Management by prestigious international issuers. This has occurred recently in a number of capital Management in which the first few Euro issues are completed at wide divergence to the domestic market rates. Thus, the swaps which become available in this way, have accounted for the presence of many high – powered issues. The quality image gained by such issues, should on these

Management has gained acceptance for new market and hence, fostered their growth.

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In sum, the primary sector of the currency swap market is dominated by – new money considerations by issuers and on the other side, by greater access to a select few low interest-rate debt Management by often the same type of entities. There is, however, a greater diversity by type of participants in the currency swap market than the interest swap market with financial institutions, particularly banks, playing a smaller role in the currency market and sovereigns, supranational and corporate playing a relatively larger role than such entities do in the dollar swap market. Position-taking (capital commitment) is still less important than commitment to creativity and distribution capacity among arrangers. While the currency swap market is highly competitive, there is still the possibility to beat your competitor by being smarter, quicker and developing –niches of special expertise in a particular currency.

Highly Opportunistic Sub-sector

The secondary market is a highly opportunistic sub-sector of the currency swap market and, judging by Bankers Trust's own activities in this market, the secondary market in currency swaps is relatively larger in comparison to the primary market. Some of the experts are of the view that this is due to a given swap counterparty having two chances to win on interest and exchange rates- in a currency swap and that with the enormous volatility of the dollar, a chance to win big on an exchange rate play. Although the original motivation may be to create a currency swap but the primary motive in the secondary market is to take profit before a currency move places the swap into an unprofitable position.

New Breed of Financial Management

The secondary market phenomenon is an inherent part of the new breed of financial management which aggressively manages their cash flows and debt portfolios because they are judged by profits. The spreads tend to be relatively wider in the secondary currency than the secondary interest swap Management, move quickly when an exchange rate breaks is the key to the level of profitability. The exchange rate effects the profitability of a swap reversal is so much that the case of exchange rate that excellent prices and highly attractive rates can be obtained in the secondary market. The reverser needs to move quickly to capitalize on his exchange rate gain. This may lead to the virtual wholesale shutdowns of the primary market in currency swaps. This is so because of the fact that many counterparties want to reverse at the same time. Consequently this will lead to substantial discounts in interest rates on the secondary market versus the primary market.

Position-taking and Market-making

Unlike in primary market, the position-taking and market-making are verycommon in the secondary market due to the excellent pricing available in the secondary

market, most of the times. Like the dollar market, sophisticated financial managers are aware that the credit risks are greater in currency swaps. When the time comes to reverse a position these sophisticated financial managers will make a market on the original transactions.

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The fixed rate currency Swap

A fixed rate currency swap consists of the exchange between two counterparties of fixed rate interest in one currency in return for fixed rate interest in another currency.

Following are the main steps to all currency swaps

1. **Initial Exchange for the Principal:** The counterparties exchange the principal amounts on the commencement of the swap at an agreed rate of exchange. Although this rate is usually based on the spot exchange rate, a forward rate set in advance of the swap commencement date can also be used. This initial exchange may be on a notional basis of alternatively a physical exchange. The sole importance of the initial exchange on being either on physical or notional basis, is to establish the quantum of the respective principal amounts for the purpose of –(i) calculating he ongoing payments of interest and (ii) the re-exchange of principal amounts under the swap.
2. **Ongoing Exchanges of Interest:** Once the principal amounts are established, the counterparties exchange interest payments based on the outstanding principal amounts at the respective fixed interest rates agreed at the outset of the transaction.
3. **Re-exchange of the Principal Amounts:** On the maturity date the counterparties re-exchange the principal amounts established at the outset. This straight forward, three-step process is standard practice in the swap market and results in the effective transformation of a debt raised in one currency into a fully-hedged fixed-rate liability in another currency.

   In principle, the fixed currency swap structure is similar to the conventional long –date forward foreign exchange contract. However, the counterparty nature of the swap market results in a far greater flexibility in respect of both maturity periods and size of the transactions which may be arranged. A currency swap structure also allows for interest rate differentials between the two currencies via periodic payments rather than the lump sum reflected by forward points used in the foreign exchange market. This enables the swap structure to be customized to fit the counterparties exact requirements at attractive rates. For example, the cash flows of an underlying bond issue may be matched exactly and invariably.

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The Currency Coupon SWAP

The currency coupon swap is combination of the interest rate swap and the fixed-rate currency swap. The transaction follows the three basic steps described for the fixed –rate currency swap with the exception that fixed-rate interest in one currency is exchanged for floating rate interest in another currency. By using the currency coupon swap the benefit which can be obtained, can be explained with the following example. Suppose an Indian corporate wished to enter a major leasing contract for a capital project to be sited in Japan. The corporate wanted to obtain the advantage of funding through a Japan's lease which provided lower lease rentals due to the Japan tax advantages available to the Japan lessor. However, the Corporate was concerned by both the currency and interest rate exposure which would result from the yen based leasing contract. The structure provided by Hankers Trust enabled the Corporate to obtain the cost benefits available from the Japan lease and at the same time convert the underlying lease finance into a fully – hedged fixed-rate yen liability. Under the structure Bankers Trust paid, on a quarterly basis, the exact payments due on the Corporate's yen based Japan lease in return for the Corporate paying an annual amount of fixed Japanese Yen to Banker's Trust. The amount for fixed Japanese Yen payable reflected the beneficial level of the Japanese Yen lease payments.

The Basis Rates

A fast developing area in the international swap Management is the basis rate swap. The structure of the basis rate swap is the same as the straight interest rate swap, with the exception that floating interest calculated on one basis is exchanged for floating interest calculated on a different basis. The forerunner of this type of swap was the US Dollar Prime Rate LIBOR swap. However, an even larger market has developed for the exchange of I month US Dollar LIBOR for 6 month US Dollar LIBOR and more recently US Dollar LIBOR for US Dollar commercial paper at much finer rates than those available on the foreign exchange market.

The availability of the basis rate swap market provides an excellent method for entities to arbitrage spreads between different floating rate funding sources. More importantly, it provides a discreet and most efficient method for European entities in particular to stimulate the US Commercial Paper funding market without the necessity of meeting the stringent US requirements for a Commercial Paper programme. To illustrate, consider a transaction structured by Bankers Trust which enabled an European bank to obtain effective 30 day commercial paper funding by converting its 6 month US Dollar funding base into 30 day commercial paper via a basis rate swap. The counterparty to the transaction was a second European bank wishing to match its commercial paper funding programme to its LIBOR asset base.

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SWAP Risk and Exposure

The great bulk of swap activity of date has concentrated on currencies and interest rates, yet these do not exhaust the swap concept's applicability. As one moves out the yield curve, the primary interest rate swap market becomes dominated by securities transactions and in particular the Eurodollar bond market. The advent of the swap market has meant that the Eurodollar bond market now never closes due to interest rate levels: issuers who would not come to market because of high interest rates now do so to the extent that a swap is available. Indeed, the Eurodollar bond market owes much of its spectacular growth to the parallel growth of its swap market. The firms that now dominate lead management roles in the Eurodollar bond market all have substantial swap capabilities and this trend will continue. One extension is seen in the beginning of the market for equity swaps- an exchange of coupons on some bonds for dividends on some equities, or an index instrument thereof (capital appreciation also may be included on one or both sides of the swap). The purpose is to earn equity returns when the investor deems them promising but without the transactions costs of liquidating an existing bond position or building an outright equities position, while also providing the complication of unfamiliar local market and the time and trouble of stock-picking if the index will suffice. Equity swaps (and, indeed, all swaps) further may be enhanced by options features customized to the interests of the credit worthy, sophisticated investor

Commodities are another fertile area for swaps in view of the limited scope of price protection alternatives. There is modestly growing swap activity in the principal non-ferrous metals, such as copper and aluminium, and rather more in gold, based partly on the advantages of the advantages of the swap investment for protecting long –term project financing vulnerable to price instability. The major focus, however, now lies on petroleum and petroleum products. This is the physical commodity sector most critical to fine economic uses. Since the mid-1980s, this sector has become one of the most heavily traded in the cash and futures market worldwide.

Essentials for reducing Swap risks

There are certain precautions which are suggested to be taken to reduce the swap risk. They are as follows:

1. **Undertaking more stringent credit analyses and use greater care in selecting counterparties:** This provides the best insurance against the swap risk. Having a financially strong counterparty not only minimizes the chances of default hut also facilitates the transfer of a swap, for either profit or lack of need, or both.
2. **Master agreements:** These stipulate the all swaps between two parties are cross-defaulted to each other, default on any one swap triggers suspension payments on all others covered in the agreement. Such arrangements normally pre-suppose frequent transactions between the

parties. They also are most effective in reducing exposure when a balance exists in swap positions between paying and receiving fixed rate flows, and between notional principal amounts and maturities.

3. **Collateralisation:** Collateralization with marketable securities has become an essential feature of swaps with dubious credits. The right to call can be mutual which normally applies only in one direction, depending on the relative strength of the two parties.
4. **Better documentation:** More protective documentation in swap agreements can provide trigger points for remedial action in advance of actual default. Users could require, for example, that the various tests of financial condition found in credit agreements can provide trigger points for remedial action in advance of actual default. Users could require, for example, that the various tests of financial condition found in credit agreement are incorporated into swaps contracts.
5. **Net settlements:** To minimize risk, a swap user is will advised to insist on settlement of all payments on the same day and on a net basis. A payments lag can leave a user vulnerable to loss of its counterparty defaults before the corresponding payment has been made.

Review Questions

1. In a currency swap, counterparties exchange the same sums at the beginning and the end of the swap period. Explain how this practice relates to the custom of making interest payments during the life of the swap agreement.
2. Why is an interest rate swap simpler to a futures contract?
3. How con an interest rate collar be created?
4. In a currency swap, both the final principal and the periodic coupons are exchanged. Why is this unnecessary in an interest rate swap?
5. What is a swaption?
6. Explain how you would value a swap that is the exchange of a floating rate in one currency for a fixed rate in another currency.
7. Explain the difference between the credit risk and the market risk in a financial contact / Which of the risks can be hedged?
8. Explain the synthetic futures and distinguish between the future contracts and option contracts.

LESSON-4: THE INTEREST RATE SWAP

Structure

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After reading this lesson you would be able to understand

- What is interest SWAP
- The meaning and working of the primary market
- The meaning and working of the secondary market
- Reason for the slow growth of the market

INTRODUCTION

The basic structure of an interest rate swap consists of the exchange between two counterparties of fixed rate interest for floating rate interest in the same currency calculated by reference to a mutually agreed notional principal amount. This principal amount, which would normally equate to the underlying assets or liabilities being – swapped by the counterparties, is applicable solely for the calculation of the interest to be exchanged under the swap. At no time it is physically passed between the counterparties. The counterparties are able to convert an underlying fixed rate asset/ liability and vice-versa, through this straight forward swap structure. The majority of the interest rate swap transactions are driven by the cost savings to be obtained by each of the counterparties. These cost savings are substantial and result from differentials in the credit standing of the counterparties and other structural considerations.

Generally investors in fixed rate instruments are more sensitive to credit quality than floating rate bank lenders. Accordingly a greater premium is demanded of issuers of lesser credit quality in the fixed rate debt Management than in the floating rate bank lending market. The counterparties to an interest rate swap may therefore obtain an arbitrage advantage by accessing the market in which they have the greatest relative cost advantage and then entering into an interest rate swap to convert the cost of the funds so raised from a fixed rate to a floating rate basis or vice-versa.

This ability to transfer a fixed rate cost advantage to floating rate liabilities has led to many high quality credits issuing fixed rate Eurobonds purely to –swap and obtain , in many cases, sub-LIBOR funding. The use of this structure in a fixed fate Eurobond issue enables the issuer to obtain substantial funding at points below LIBOR. This most attractive of rates is made possible by (i) the careful timing of the Eurobond issue to ensure its success at the finest of rates and (ii) the use of

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exact hedging and a deferred swap accrual date to ensure the best possible swap terms for the issuer. The counterparty to the swap may be a combination of banks and corporate clients. The banks may want to hedge their fixed rate income into a floating rate return that fully matched their floating rate liabilities in order to alleviate interest rate exposure. The corporate clients may want to hedge their floating rate binding into fixed rate liabilities for a size and maturity unavailable in the direct fixed rate debt market. Acting as principal, the intermediary may be able to provide both the banks and its corporate clients with swap terms to meet their exact requirements and then subsequently lock the Eurobond issuer into an opposite swap when the Eurobond market was most receptive to the issue. Interest rate swaps also provide an excellent mechanism for entities to effectively access Management which are otherwise closed to them. The ability to obtain the benefits of Management without the need to comply with the prospectus disclosures, credit ratings and other formal requirements and other formal requirements provides an additional benefit especially for private companies. An excellent example of the swap market's flexibility in providing benefits is the growth of interest rate swaps using commercial paper as the underlying floating rate basis. The interest rate swap market also provides finance money with the perfect mechanism for managing interest rate costs and exposure whilst leaving the underlying source of funds unaffected. For example, the cost of fixed rate funding may be reduced in a declining interest rate environment through the use of the interest rate swap technique whilst leaving the underlying funding in place.

After a close observation of the interest rate swap market it is experienced that it possess certain characteristics of a fairly well-organized financial market. There are a larger number of players with fairly distinct roles in the market, there arte several different structures of the market in which certain players specialize. There is both a primary and a secondary market in interest swaps. Not only this, there is sufficient liquidity in both the primary and secondary Management of certain sectors such that a few players do trade or make Management in interest swaps and in even fewer cases have significant capital commitments to the swap market.

After the above explanation, we are in a position to say that swap market activities can be **classified into two sectors**—

1. The primary market and,
2. The secondary market.

The Primary market has the further divisions like –source of raw material for a interest rate swap-bank, financial market funding, hedging instruments and the securities Management. European bond market can be taken as an example. The primary sector can be distinguished by the activities like maturity and type of player. The short term sector of the primary market is essentially an inter bank market dominated by the funding and hedging activities of both large and small banks. The banks are both providers and takers in the segment of the market depending on the structure of their asset base. Since it is extremely volatile in price

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in terms of spread, the market-making or position taking is, therefore only for the most experienced dealers. For such dealers profit potential is high and risks in position – taking while similarly high, are manageable due to impressive array of instruments available to manage risks. New York is the centre of this market with London and Tokyo following it. The main participants are the banks which include a number of brokers who have extended their normal money market dealing activities with banks to include interest swap activities. Success in this segment of the primary market does not depend only on close integration of an institution's treasury and swap operations, but also on distribution and in particular, the ability to move positions quickly due to the price volatility and risks inherent to the market. Inventory also quickly becomes stale in the short-term market because most transactions are done on a spot basis holding a position for a period of time may therefore mean one's inventory may not move irrespective of price. However, the growth of the secondary market in the short term swaps has decreased the risks of position – taking in the short term secondary market. The use of financial futures has been the special feature of the secondary market which create the other side of an interest swap. While financial futures-based swaps are highly complex to execute properly, the very quick and sharp movements in this market and hence, the need to –wind and un-wind these structures to maximize profits has increased the liquidity in the secondary market.

Excepting the yield, the primary interest rate swap market is dominated by securities transactions and particularly the Eurodollar bond market. This market segment is very large. It is estimated that some 75% of all Eurodollar bond issue are swapped and the dollar fixed –rate Eurobond market is currently running at an annual rate of $50 billions plus. The Eurodollar bond market never closes due to interest rate levels. Issuers who would not come to market because of high interest rates now do so to the extent that a swap is available. The firms that now dominate lead management roles in the Eurodollar bond market all have substantial swap capabilities and this trend will continue. Pricing in this segment of the market is exclusively related to the U.S. Treasury rates for comparable maturities and is marked by the relative stability of these spreads by comparison to the short-term market. The size of the Eurobond issues and the oversupply of entities able and willing to approach the Eurobond market to swap into floating rate funds, most major houses in the swap market now enter into swap agreements with an issuer without counterparty, on the other side.

The ware housing activity is normally hedged in the U.S. Treasury of financial futures market, leaving the warehouse manager with a spread risk, or the difference between the spread at which he booked the swap with the issuer and where he manages to find a matched counterparty. The relative stability of spreads and a positively sloped yield curve have allowed the market to function reasonably well on this basis with only occasional periods of severe oversupply in any particular maturity. The major houses tend to spread their inventory across the yield curve to reduce risk and to ensure ready availability of a given maturity for particular clients requirements.

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Bids for bond-related swaps tend to differ between the major houses by only a few basis points: the swap market is quite efficient in price given the few houses who deal in bond market size and maturities. Hence, a premium is placed on creating bond structures which offer the fixed-rate issuer a lower cost and therefore, a better spread LIBOR. Apart from creative bond/ swap structures, the key to successfully operating in this segment of the market for the bond/ swap arranger has been the development of a highly refined sense of timing for the underlying issue. While finding a window in the Eurodollar bond market has always been the sine qua non for a successful lead manager, with the advent and development of the swap market, the focus of the potential lead manager has shifted from an investor window to a spread window. Given that the long term swap market operates on a relatively stable spread level versus US Treasuries and the Eurodollar bond market is notoriously volatile versus Treasuries for different types of issuers, a similar premium to that of creativity applies to the lead manager who can locate a spread window for a particular type of issuer. This creativity and search for a spread window has sometimes led to mis-priced and/ or virtually incomprehensible bond structures but more often than not, bond/ swap structures so created have provided value to both the Eurobond investor and issuer.

However, it is clear that (below) LIBOR spreads available to issuers have declined as the market has become more efficient in pricing the relative value of a given swap: at the outset of the market, a –AAA issuer could reasonably expect to achieve 75-100 basis points below LIBOR on a bond/ swap; under current market conditions. This same issuer might expect only 25-30 basis points below on a –plain vanilla bond/ swap. Indeed many issuers, particularly commercial banks, now find it more cost-effective to approach the floating rate note market than the bond/ swap market. The lower spreads available have gone almost entirely to the benefit of the fixed-rate payer; intermediaries have seen their profit margins reduced to a very substantial degree in the primary market. This reduced profitability and lower spreads available has led, in turn, for most bond /swap arrangers to attempt to put potential counterparties in direct contact with each other and eliminate the intermediation of a commercial bank. This is most often a very difficult process due to timing and credit considerations but there is a strong incentive now among all parties concerned to see whether a direct write is possible on a new issue.

The long term secondary market for interest swaps is a highly opportunistic segment of the market. As interest rate fluctuates, a fixed rate provider or taker may find that a substantial profit can be realized by reversing the original swap or canceling the original swap in return for an up-front cash payment. Several reasons can be cited for the slower rate of growth of the interest swap market. The few of them are explained below.

1. Banks executing fixed rate bond issues have represented a large portion of the provider side of the swap market. Most of the banks executed a bond/swap to gain long term floating rate funding for their long term

floating rate funding for their long term floating rate loans and therefore, have no reason to reverse.

2. The odd dates thrown off by swap reversals are often difficult to close in the market and thus what appears to be an interesting price on a spot basis may become substantially less interesting when the odd dates are taken into account.
3. Many swap intermediaries do not make Management to their clients with whom the original swaps were written. In this case, now, the only option available is to execute a mirror swap for which up-fronts cash will be difficult to obtain and entails a doubling of credit risks for the reverser.

The market risk may be associated with the fixed flows, there is also risk associated with the LIBOR side. An additional potential risk can be assumed depending on the structure of the swap. When counterparty receives fixed payments semi-annually and pays LIBOR semi-annually, potential risk is minimized.

Despite the problems explained above, the long term secondary market has shown good growth and several houses have sponsored the growth of this segment through commitment of capital, personnel and systems capabilities to market to making in long term swaps.

Review Questions

1. What do you understand by interest rate swap?
2. What is primary market?
3. Explain the main features of the secondary market.
4. Examine the objective of the interest swap market.
5. What are the reasons for the slow growth of the swap market?
6. Explain with an example the working of the interest swap market.